The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXIX. CHICAGO, ILLINOIS, AUGUST 2, 1902. No. 5.

Original Articles.

CRYPTORCHIDISM, WITH A REPORT OF TWO CASES OF NATURAL EUNUCHS.

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The congenital absence of the testicle from the scrotum, or cryptorchidism, as this condition is called, is a subject rich in literature, for it has attracted the attention of physicians for three hundred years.

CASES IN HISTORY.

The early writings require no special consideration, inasmuch as they have been thoroughly reviewed by Godard,[1] whose thesis on this subject, published at Paris in 1858, serves as the basis of all future studies of this question. A copy of this thesis constitutes one of the many priceless treasures of Dr. Nicholas Senn's collection in the Newberry Library.

Godard states that the first case of which there is any record of an absence of both testicles was reported by Cabrol, in 1564. The individual was a soldier, who was executed for an attempt at rape. On postmortem examination the epididymes were found present, but there was no trace of either testicle. Cabrol supposed that the epididymis secreted the semen, and that the testicle was simply a weight attached to the epididymis to prevent its kinking. The veracity of Cabrol's statement has been questioned by some modern writers, who believe that he rendered an untruthful report for political reasons.

Five other cases in which there was an absence of both testicles and the eunuch habitus were collected from the literature and from his personal experience by Godard.

Trelot and Peyrot[2] bring the literature of cryptorchidism down to 1880. They correct many of the views entertained by Godard and add a number of new facts.

From 1880 to the present time a good deal has been written on the subject of the ectopic testicle, but during this period almost no attention has been given to the cases in which no trace of either testicle could be found, and in which the individual presented the eunuch habitus.

The two cases which I have observed give the following histories:

NARRATION OF CASES.

CASE 1.—An individual, age 40, no family history of tuberculosis, carcinoma or syphilis. Absence of the testicles was noticed by his parents during his infancy, but it was supposed that they would descend at some later period of life. The members of his family attribute his condition to maternal impression, his mother having received a severe mental shock during the sixth month of pregnancy. During his infancy and childhood he was weak and delicate; he suffered from all the diseases of childhood and it was not supposed that he would live to adult age. When his health permitted, he attended school, but he was not mentally bright, and although he was given every possible educational advantage, he only acquired an elementary education. Being the weak member of the family, he was indulged by his parents, and because of gastric catarrh and bronchitis from which he suffered it was found necessary to discontinue his education at the time of puberty.

After several years of ill health, he went into business, acting as a clerk in a store. He never rendered satisfactory services to his employer, and it would have been impossible for him to have maintained his position had he not been shielded from his employer by his fellow-clerks who frequently performed his duties.

About the age of twenty-five, he again suffered from bronchitis and general debility, to such a degree that he was forced to retire from business, and during the past fifteen years he has had no employment whatsoever.

At the present time he is six feet six inches in height (no other member of his family is more than five feet ten inches), of slender build, stoop-shouldered to a marked degree. He appears to walk with difficulty, and with a peculiar swinging motion of the entire body. His under extremities are weak, and he is unable to run. When compelled to move rapidly to avoid a passing team, or for other cause, he frequently falls, and on several occasions he has sustained somewhat serious injuries. As he passes in the street this tall, stoop-shouldered individual always attracts the attention of the passer-by, and to the physician his appearance suggests acromegaly as the first possibility of diagnosis.

His mental condition is peculiar and particularly difficult to describe. He is mentally weak, a fact which is recognized by everyone with whom he comes in contact. He is not interested in the serious affairs of life, which usually engross the attention of a man of forty years of age. He does not read useful books or study the important questions of the day. He reads unimportant local news. For such things as he is interested in he has a good memory, and is fairly intelligent. He is self-willed and easily aroused to anger. He is interested in automobiles, knows the different makes, and can usually tell the make of one passing in the street. He is also interested in domestic animals, especially horses. He knows all about street pavements and the advantages and drawbacks of the various kinds. He is very fond of music, and constantly attends concerts, theaters and operas.

Formerly he was neat and particular about his personal appearance; in later years he has become careless in these matters. In recent years he has become extravagant, spends money foolishly and contracts debts. He rides about in a carriage a good deal. He has no bad habits and does not drink or smoke. He has no amorous propensities, and never had an erection of the penis. Few of his acquaintances suspect the cause of the peculiarities, and physicians who have treated him from time to time are unaware of his true condition.

On examination, we find none of the stigmata of hereditary syphilis or evidence of tuberculosis.

The hair of the head is normal. His physiognomy is that of a male. He has no beard, but shaves once in two weeks, we are

convinced, more to be like other men than from any real necessity. Extending from the suprasternal notch upward to the middle of the thyroid cartilage, exactly in the median line, is a linear nevus. His voice is puerile and has never changed. The breasts are of the male type; there is some hair in the axillæ; there is no male distribution of hair on the breast or abdomen; in the pubic region there are not to exceed a dozen illy-developed hairs.

The penis is the size of that of a boy of six years of age, but perfectly formed; the foreskin may be retracted; the glans penis is normally formed; the urethra is small, but normal and proportionate to the size of the penis.

The scrotum is also small, but perfectly formed, with a normal central raphe. No testicle and no epididymis can be felt in the scrotum on either side. Passing the finger along the inguinal tract by invaginating the scrotum, no spermatic cord can be felt; the internal ring is not open; no testicle can be felt at the internal ring, and there is no impulse on coughing on either side. No ectopic testicle can be discovered in the usual locations of ectopic testicles.

Measurements of the hands and feet and the appearance of the chin exclude acromegaly.

CASE 2.—This patient, age 26, is about five feet six inches in height; rather corpulent, with prominent abdomen. His family physician informs me that there is no tuberculosis, cancer, syphilis or insanity in the family and no hereditary tendency to malformations of the genital organs. The patient has always enjoyed good health. He attended school for two years when a boy, but he was not sufficiently intelligent to keep up in his classes. Beyond the fact that he never was intellectually bright, he showed no peculiarities until after puberty. He can write his name and simple sentences, and do easy sums in arithmetic. He never reads or studies. He is an inveterate smoker, and his mother finds it necessary to limit the number of cigars he smokes each day.

He has no occupation and never was sufficiently intellectual to engage in business. He spends most of his time in a cigar store, conversing with the proprietor and watching customers come and go. He has many habits which are disgusting to those about him. His table manners are such as to necessitate his eating separate from other members of the family. His condition is generally known to his associates, who consider him a hermaphrodite, and assign to him many peculiarities of mind and body which he does not possess.

He states that he occasionally has a hemorrhage from the penis, losing about a teaspoonful of blood each time; the bleeding continues about one-half hour, and occurs at irregular intervals. His physician has observed one of these hemorrhages. His friends interpret them to be menstruation. The cause of the hemorrhages cannot be ascertained. We suspect they are due to some foreign body being purposely introduced into the urethra. The meatus is swollen, and the mucous membrane everted. The urine is voided in a good stream; it is normal and contains no shreds. There is no urethral discharge, and no induration can be felt along the course of the urethra.

The thyroid gland is enlarged to a moderate degree, the left lobe being larger than the right and very hard. This enlargement has been present as long as he can remember. His voice is eunuch-like, and when he speaks in loud tone it is squeaky, like that of a youth during the time the voice is changing. He has no beard and never shaves. There is some hair in the axillæ; none on the breast or abdomen, and no more than six or eight hairs in the pubic region.

He presents the female habitus of hand, arm, hips and lower extremities. The penis is not larger than that of a boy of six years, but perfect in its formation. The scrotum is perfectly formed, but also of small size. There are no scars on the scrotum which could be the line of incision of an early castration. The scrotum contains no testicles, but in the upper part of the right side can be felt a cord which is possibly a rudimentary spermatic cord. There is no ectopic testicle.

RARITY OF NATURAL EUNUCHS.

As far as can be judged from the literature, cases like these are rare. One of the cases mentioned by Godard, that of Fisher,[3] of Boston, reported in 1838, gives a history quite similar to the history of these cases, excepting that Fisher's patient was not mentally weak. Several writers mention the fact that they have seen natural eunuchs, without giving any history of the cases. Samuel Gross and some other clinicians of extensive experience state that they have never seen cases of natural eunuchs.

Most text-books make no mention of the subject, and whether the condition of these individuals is due to undeveloped testicles or to a total absence of the testicles can only be determined on postmortem. Where the testicle is present but undeveloped, it is found to be pea-sized on postmortem examination. The testicle may atrophy during postnatal life from the orchitis of mumps, syphilis, tuberculosis, gonorrhea and traumatism, but in such cases it can be found; it is the size of a sparrow's egg.

Some authorities believe that the testicle is never congenitally absent. Trelot and Peyrot say that it may be, and they state that there are seven cases on record where on postmortem examination the testicle was absent, and the epididymis and afferent duct were present; twenty-three in which the seminal vesicles and a rudimentary afferent duct leading towards the scrotum were present, with absence of the epididymis and testicle, and two cases where the spermatic cord, epididymis and testicle were all absent. The number of cases of these different varieties has been increased since this report.

CLASSIFICATION OF CASES.

Strohe,[4] a recent writer, divides cryptorchidism into two classes: those whose testicles are retained inside the abdomen and who present the female habitus, and those whose testicles have passed outside the abdomen, and who present the male habitus. This is the old division of Godard, and was long ago shown to be incorrect. The testicles may be retained inside the abdomen and the individual present the male habitus.

Verdier has reported a case of a married man, 34 years old, with normal penis, whose testicles, located in the abdomen, suddenly descended into the inguinal tract after a severe exertion.

The testicles may be located in the inguinal tract, and the individual present the female habitus, and Sears has reported the case of a man, 25 years old, whose testicles were in the scrotum, and who presented the female distribution of hair and breasts of the female type. His penis and testicles were one-half the normal size, but he was capable of normal sexual functions.

One of the most remarkable cases of non-descent of the testicles of which there is any record is the case of Lopez.[5] The patient was a mulatto boy, aged 3 years and 10 months. His weight was 81 pounds; height, 4 feet and half an inch. Chest measurement 27½ inches. Thigh, 19 inches. Head, 22 inches. Length of penis at rest, 4 inches; circumference, 3½ inches. Testicles not descended. He had whiskers and hairy axillæ, and could lift a man of one hundred and forty pounds.

The variety of cases is such that it is impossible to divide them into classes. When the testicle does not properly descend during intrauterine life, it may lodge behind the kidney, in the iliac fossa, at the internal ring, in any part of the inguinal tract, or, passing out of the inguinal tract, it may be located almost anywhere in the abdominal parietes. It may pass through the femoral opening and be located in the upper part of the thigh, or it may be found in the perineum.

ETIOLOGY AND ANATOMY.

The causes usually assigned for its failure to properly descend are shortening of the gubernaculum testis, ad-

hesions resulting from intrauterine inflammations, abnormal peritoneal folds, abnormal situation of the intestines, abnormal size of the epididymis, narrowing of the inguinal tract, and heredity.

Godard and other early writers believed that the ectopic testicle diviated but little from the normal in its histologic structure. Finotti[6] has recently shown that this is not correct. He carefully examined nine extirpated ectopic testicles, finding that they were softer and smaller than normal. The straight tubules were poorly developed, and the connective tissue increased. The cells of Henle, which are probably rudimentary formations of embryonic life, were so numerous in places as to convey the impression that they are vegetating masses. He believes that they form the nidus for malignant neoplasms, which are known to develop more frequently in undescended testicles than in normal testicles. The undescended testicle is quite as prone to become the seat of malignant disease as are nevi which contain misplaced epithelium cells, and hence constitute a locus minoris resistentiæ.

The study of what is normal in the testicle and what is abnormal is attended with great difficulty, because the normal testicle differs so greatly in its histologic structure at different periods of life. In childhood it is mostly connective tissue; in adult lift mostly glandular tissue, and in old age it returns to connective tissue. Finotti carefully prepared himself for the study of the ectopic testicle by a study of the normal testicle at all periods of life.

ATTENDANT STERILITY.

John Hunter first directed attention to the fact that individuals with ectopic testicles are sterile; Godard makes the same statement. Beigel,[7] Vaette[8] and others have found spermatozoa in ectopic testicles which have been removed; the semen, too, has been found to contain spermatozoa, though usually imperfectly formed. The function of spermatogenesis usually ceases about the fortieth year of life in these individuals, and Ziebert[9] says that whether they are capable of procreation or not is still a mooted question.

THE INTERNAL SECRETION.

Besancon and most other writers who have expressed any opinion on the subject believe that the testicle has two functions: First, that of spermatogenesis; second, that of internal secretion.

The removal of the thyroid gland in young life produces cachexia strumipriva, a complex of symptoms very similar to myxedema. The absence of the testicles, their removal in early life, or their imperfect development causes the individual to assume the eunuch or feminine habitus.

Cachexia strumipriva comes on about one year after the thyroid is removed. Where the testicle is absent, as shown by my cases, and also by Fisher's case, the characteristics of the eunuch do not develop until puberty. The Century Dictionary states that the same thing is true of the Oriental eunuch. A possible explanation of this difference from cachexia strumipriva is the fact that the testicle to all intents and purposes is not a glandular organ until puberty.

Castration in adult life does not affect the habitus of the individual in the vast majority of cases. Castration for enlarged prostate was followed by insanity, which could not be assigned to any other cause than the operation in a few cases. In Cabot's[10] case, the mental condition of the individual greatly improved when testicular substance was administered. Uncomfortable flushes of heat similar to those experienced by women at the time of the menopause were observed in a number of cases of enlarged prostate treated by castration. From this it will be seen that the function of internal secretion is most active at the time of puberty, when spermatogenesis is first established.

Finotti says that the two functions of the testicle are entirely separate and distinct and that the testicle may attain that degree of development which will enable it to produce internal secretion, but will not enable it to produce spermatozoa, as is shown by those individuals who are perfectly developed, but whose semen never contains spermatozoa. They are affected with azoöspermia. He therefore advises the surgeon to preserve every particle of testicle possible, when called upon to operate on the testicle, with the hope of preserving the function of internal secretion, even if that of spermatogenesis be lost. Until the question is definitely settled, there can be no objection to following this rule.

DUCT GLAND OR DUCTLESS GLAND.

The testicle differs from other duct glands in the fact that ligation of the afferent duct of a duct gland causes swelling and subsequent atrophy of the gland, while ligation of the vas deferens does not affect the testicle, as was shown by the cases in which the vas deferens was ligated for enlarged prostate. Bilateral gonorrheal epididymitis may cause permanent sterility; still the testicle does not atrophy. The testicle is, therefore, to all intents and purposes a duct gland, and a ductless gland.

Where called upon to operate on the kidney of individuals with imperfectly formed external genitalia, the surgeon should recall the following quotation from Harris:[11] "With absence of a kidney is frequently found developmental defect in the genital organs of the same side, such as absence of the ovary and uterus unicornus in women, or absence of the seminal vesicle, vas deferens, testicle or unilateral prostate in men. In 113 men such defects were found 28 times."

CUSTOMS OF THE TURKS.

How long after castration does an individual become impotent? This is a question of some importance from a medicolegal standpoint. Andrews[12] says: "Some writers assert that if castrated young, the eunuchs remain perfectly indifferent to female attractions, and articles are often written in medical journals advocating the castration of sundry criminals in adult life, under the assumption that their sexual temptations will all be removed by the simple ablation of the testes. The Turks, however, have no confidence in that kind of moral reform; they require their eunuchs to be castrated in childhood, and that the operation shall remove scrotum, testicles and penis at one full sweep."

The reason the Turk amputates the penis, in my opinion, is not because he has ever had any unpleasant experience in his harem with the eunuch whose penis was not amputated, but because his forefathers did, and being an Oriental, he is incapable of change, and those who castrate boys to furnish eunuchs for the harem are not sufficiently intelligent to adopt modern antiseptic methods. It has been the custom from time immemorial for the Turk, Chinese and all other Oriental nations who employ eunuchs to amputate the penis.

Boys of illegitimate parentage are usually selected for eunuchs, and the operation in certain parts of the Orient is performed by monks, who operate by one of two methods. The first method is to tie a stout cord around both testicle and penis, and permit the parts to slough off, during which time the boy is buried to his

neck in sand. This method causes retention of urine for several days; hence a paresis of the bladder results, and the eunuch suffers from dribbling of the urine ever afterwards. The second method is amputation of penis, scrotum and testicle by one stroke of a knife. The drawback to this method is hemorrhage, which they are illy prepared to control. By either method they lose about one-third of their cases.

DOES CASTRATION PRODUCE IMPOTENCE?

I see no reason to believe that castration before puberty does not effectually produce impotency. There is, however, a certain amount of evidence in support of the contention that castration in adult life does not always produce immediate impotency. A man who was castrated by Sir Astley Cooper stated that he retained the sensation of emission for twelve months, and the power of copulation, at rare intervals, for ten years after the operation. Ricord[13] mentions the case of a man who was castrated on account of disease of both testes; he was also affected with a tumor of the cerebellum. He had, nevertheless, erections and the most violent sexual desire. In the series of cases of castration for enlarged prostate tabulated by White,[14] three of the patients stated that the operation had not caused impotency, although they were old men. My colleague, Dr. Campbell, has observed the case of a woman, who, after the removal of both ovaries, suffered from supernatural sexual desire. She presented no symptoms of mental disease. A few years ago I examined a man for stricutre of the urethra whose testicles were absent. He stated that he was castrated fifteen years before, because of a railroad injury, and that he had experienced no diminution in his sexual power, and that the gonorrhea which caused the stricture was contracted several years after the operation.

Where patients know that they are impotent beyond all possibility of cure, they are very loth to acknowledge their incapacity, even to the physician, and the statements of those who have been castrated, that they still retain their sexual power, should be accepted with caution. I now have under observation a man who was castrated for tuberculosis of both testicles one year and six months ago, who states that he is just as capable of copulation to-day as he ever was. He has become very fleshy since the operation. I believed that he was truthful, but before mentioning his case in this paper I concluded that it would be advisable to interview his wife. She states that he was previously very passionate; that the operation entirely extinguished his amorous propensities; that he does not have an erection oftener than once in three months, and that his efforts of copulation at such times are unsatisfactory.

For the past year I have been treating a man for tuberculosis of both testicles. Inasmuch as he also has had tuberculosis of the hip joint, castration would not eradicate the disease. I therefore administered protonuclein continuously, with the result that the tuberculosis of the testicles has healed, but both testicles have atrophied, leaving him impotent.

Eliminating these cases in which the claim of retention of sexual power after castration is based entirely on the statement of the patients, there is very little evidence that castration, even in adult life, does not quickly produce impotency.

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EVOLUTION OF THE PULP.*

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It has often occurred to me that conditions other than the toxins producing lactic acid were instrumental in decay of the teeth. This and interstitial gingivitis result from a struggle for assimilable nutriment dependent upon the action of the nervous system, operating through the law of economy of growth.

Elsewhere I have demonstrated the relation of degeneracy to the struggle for existence between the face and brain, the jaws and brain, the alveolar process and the jaws and face. I shall now discuss degeneracy of the teeth and their pulps, in relation to evolution.

In its evolution every structure in the body passes through embryologic phases[1] resembling types found in the lower vertebrates. In such evolution it is affected beneficially by both degeneracy or the suppressive phase of evolution and the advance phase. These phases constitute a struggle for existence for assimilable nutriment which proceeds under the law of economy of growth. If this law of economy of growth proceed in a balanced manner the structure type is developed, although not to the full extent promised in the child. In this development the contending influences of remote atavism, immediate atavism, type heredity and immediate heredity all play a part. In the earlier phases of embryologic evolution remote atavism has seemingly most sway. For this reason structures appear early in embryonic life, only to disappear through the beneficial influence of type heredity aided by immediate atavism and by immediate heredity. Degeneracy at this phase plays a salutary part in causing disappearance of useless structures, thus placing organs in shape for new functions. Nowhere is this process better illustrated than in the teeth and their pulps whereby what was originally a placoid scale becomes a tooth intended for the utilization of nourishment. While the individual development of an organ, as DeMoor points out, is a compressed résumé of its historic evolution, still such a recapitulation must be only a more or less vague repetition of the essential phases of phylogeny. The development of the child, for example, exhibits "short cuts" and phases of direct development due to adaptation destroying the exactness of the parallel with phylogeny. The question, however, of these "short cuts" depends on the operation of the forces already described and the influence of the disappearance of rudimentary organs. It frequently happens that rudimentaary organs are preserved on account of their insignificance alone. Thus occurs the persistence of accessory rudiments of enamel organs in the development of teeth. Besides the rudiments of the enamel organs for the milk teeth and the permanent teeth, there

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

1. In this paper I have made large use of Willey's work on the Amphioxus of Lyddecker, of Tomes, and other comparative anatomies.

are additional organs present in a variable condition and number nearer the external surface. They are very generally present and markedly resemble the youngest stage of the normal enamel organs. According to Kollman and Gegenbauer, they are abortive rudiments surviving from an ancestral condition in which teeth were more numerous.

Development of the tooth from the placoid scale (Fig. 1) turns on development of the mouth. In consequence of the increase in the size of the brain, its forward extension and its cranial flexure, together with the relative reduction of the head cavities and the mouth, as Willey remarks, has been carried round from its primitively dorsal position to its final position on the ventral side of the head in the craniate vertebrates. According to Dohrn, the vertebrate mouth results from the fusion of two gill-slits. The annelid mouth which perforates the central nervous system in passing through the circumesophageal nerve collar has become aborted and is replaced by a new mouth derived from a fusion across the mid-ventral line of a pair of gill clefts. The hypophysis cerebri represents, according to Beard, the remains of the old annelid mouth. This double origin of the mouth has been particularly well shown in the embryos of the toad-fish by Cornelia Clapp. The toad-fish is, however, a comparatively high type. The mouth

Figure 1.

Dermal papillæ of Monacanthus trossulus.

Dermal papillæ of Monacanthus hippocrepis (magn.)

in vertebrates has undergone an evolution from a round (cyclostomous) to a jaws (gnathostomous) condition.

Development of the pulp illustrates clearly irregularities in type arising from the operation of the law of economy of growth as modified by environment and the consequent necessities of the animal. The pulp in some vertebrates becomes, as Tomes remarks, eventually converted into secondary dentine, but generally those teeth which exercise very active function and last throughout the life retain their pulp in an active and vascular condition. The variations in the condition of the pulp are by no means limited by zoologic classes. For the purposes of the present discussion the classifications of Huxley are most suitable. These include the *Ichthyopsidæ* (which comprise the fish and batrachians), the *Sauropsidæ* (reptiles and birds), the monotreme mammals, the marsupials and mammals proper. The line of development of the tooth is shown in the more or less constant relationship between the skin and the teeth which appear as the scale above the *Icthyopsidæ* is reached. The law of economy of growth in the higher *Sauropsidæ* peculiarly illustrates this. The lowest fish (*Amphioxus*) has no jaws and no teeth. In the next class, the lampreys have a cartilaginous skeleton and are cyclostomous[2] (Fig. 2). There are no jaws and the mouth is surrounded by a circular lip, beset with rows of small, conical teeth. The larger blade-shaped teeth, called the mandibular and maxillary teeth, are in the center. These horny teeth, resting upon a slight dermal papilla, fit into special epidermal depressions at the base of the papilla. In lampreys there are superimposed cones. (Fig. 3.) Each of these layers arises from a separate epidermal depression which goes on continually forming horn, so that the under cones are in no sense reserve teeth, for as each tooth is worn away at the apex fresh horny matter is formed below and pushed forward. There is thus no resemblance to most teeth of higher vertebrates. In young lampreys are found what at first sight seems a true tooth sac, but the dental papilla never forms any odontoblasts and the epithelium, which corresponds to the enamel organ, produces horn. This is true of the marginal teeth, but further in towards the center the teeth are formed simply in the basal layers of the epithelium without the intervention of any sort of tooth sac. In the *Myxine* and *Bdellostoma* of the same class are a large sharply-pointed medium tooth and two cone-like teeth upon the tongue. The working surface of the teeth is composed of horn like that found in the lamprey.

The tooth of *Bdellostoma* consists of a horn cap, thick, strong and bright yellow. Beneath this is a layer of epithelium and next a hard, calcified material, which Beard regards as a form of dentine. The horny cap fits into an epithelial groove at its base, increases in length by the cells of this groove becoming cornified,

Fig. 2.—Mouth of Larva of Petromyzon branchialis.

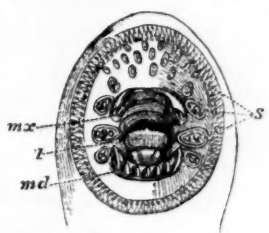

Fig. 3.—Mouth of Petromyzon fluviatilis. *mx*, Maxillary tooth; *md*, Mandibulary tooth; *l*, Lingual tooth; *s*, Suctorial teeth.

and in thickness by a similar conversion of the epithelial layer beneath it. The hard cone forming the body of the teeth, while not closely corresponding to any known dentine, is undoubtedly the product of an odontoblast layer upon the pulp, which latter remains in the base of the dentine cone in the usual way. The relation which the horn cone bears to the dental papilla and its dentine is entirely different from that borne by the horny teeth of the ornithorynchus, in which the horny plate that takes the place of teeth in the adult lies beneath the teeth. In expressing this opinion, Tomes to some extent ignores the phenomena of evolution by atrophy through which structures disappear by the law of economy of growth for benefit of the organism. The third eye of man through the operation of this law becomes the pineal body. Through distant atavism and acquired defect gaining ascendency, the type eyes sometimes atrophy for the benefit of the central eye and a cyclops results. The same conditions occur in the evolution of the kidney in the human fetus. Certain structures are formed only to disappear for the benefit of the type kidney. That the horny teeth and the teeth might have in this way independent origin does not seem to have occurred to Tomes or to Beard. Beard is of the opinion that the fusion of the lingual teeth of *Myxine* into a serrated plate may indicate the manner in which the serrated horny jaws have originated in turtles as a substitution for the true teeth upon which they were once superimposed. Tomes sug-

2. The following illustrations are taken from Günther.

gests that there is no material for this or the similar hypothesis of the origin of the bird's bill from the substitution of a number of coalescent horny teeth for true teeth. Since the horny beak of the cuttle-fish somewhat resembles the beak of birds, and since the cuttle-fish in many respects is of comparatively high development, it is by no means improbable that similar conditions were found in ancestors of the vertebrates.

The jaws, as Minot has pointed out, a later gain of the vertebrates, are absent in the amphioxus and lampreys and other *Cyclostoma*. Man and the anthropoids retain more of this embryonic feature than many of the lower mammals.

The mouth of the amphioxus is essentially an organ of the left side, homologous neither with the ascidians nor with the craniate mouth. The phenomena connected with the devolpment of the mouth in the amphioxus throw light on the development of placoid scales in the interior of the body. In sharks, the scales of other fish are replaced by a papilla which have somewhat the same structure as their teeth. To these the "shagreen" of the shark owes its roughness. The mouth is a transverse more or less curved fissure opening upon the under surface of the head at some little distance behind the end of the snout. Hence a shark seizing its prev turns upon its back, or at all events upon its side.

The jaws (which are made up of the representatives of the palate—quadrate arch and Meckel's cartilage; neither true maxillæ nor premaxillæ being present) are cartilaginous in the main (although covered with a more

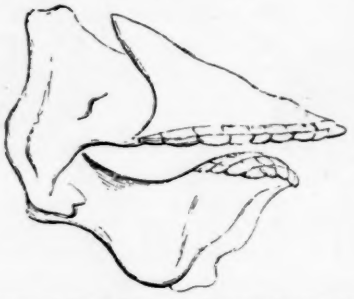

Fig. 4.—Jaws of Port Jackson Shark, Cestracion philippi.

or less ossified crust) and therefore shrink and become much distorted in drying. The shape of the jaws differs in the various groups. In some each jaw is a tolerably perfect semi-circle. In others they are nearly straight and parallel to one another. In all the rounded working surface of the jaw is clothed or incased by teeth arranged in parallel concentric rows. The teeth (which are situated upon the edge or exposed border of the jaw) are usually erect. The rows which lie behind them, farther within the mouth, point backward and are more or less recumbent, not having yet come into full use.

The teeth as already shown were primitively organs of the skin widely developed over the surface of the body, which played an important rôle in the genesis of the skeleton. Fish, especially sharks (Fig. 4) are hence the source of study of the primitive mode of tooth formation. The tooth of the shark begins as a mesenchymal (body between the ectoderm and entoderm) papilla, composed of crowded cells and projecting into the epidermis. The layer of epidermal cells overlying the papilla changes in character (its cells gradually lengthening into very long cylinders) and becomes the enamel organ by further development, the epidermis thickens, the papilla projects into it, becoming narrow and longer and, taking an oblique position, gradually assumes the shape of the tooth. Ossification now begins over the surface of the papilla, a layer of epithelioid osteoblasts arises and between these and the enamel organ the development of bone or ivory begins. The osteoblasts persist and the bony structure is developed between them and the epidermis, forming a stratum which grows in thickness (Fig. 5). At the same time the enamel organ begins to deposit the calcified layer known as enamel over the papilla. Later the tooth acquires a support by the direct ossification of the connective tissue at its base and is then a complete "placoid scale." The teeth of the mouth depart from this primitive mode of development, since they do not arise on the surface, but deep down. The dentiferous

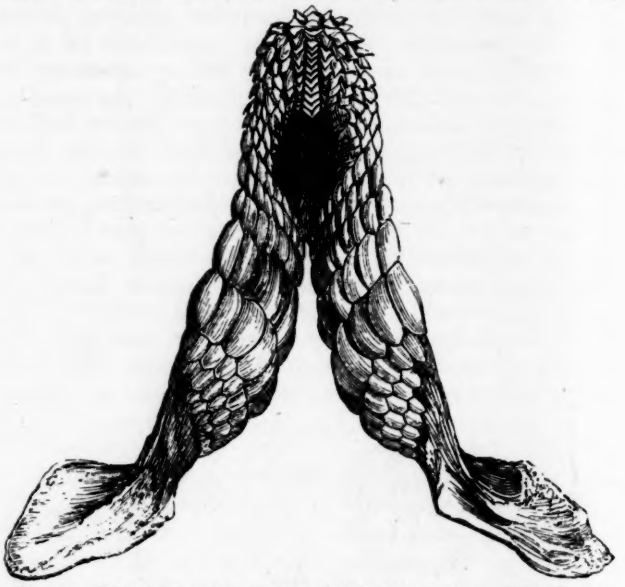

Fig. 5.—Upper jaw of the same, half natural size. Port Jackson shark.

epithelium grows down into the dermis forming the oblique shelf, which is a special tooth-forming organ. (Fig. 6.) On the underside of the shelf the teeth are developed in the same way as over the skin. A tooth is hence a papilla projecting into the epidermis which, ossifying in a peculiar way, changes into ivory around the soft core or pulp. To the papilla the epidermis adds a layer or enamel. The tooth proper unites with a small plate of dermal bone at its base. By a modification of

Fig. 6.—The sheep's head, Sargas ovis of North America. Lower jaw.

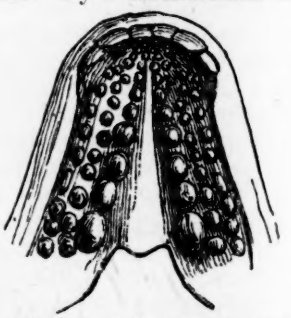

Fig. 6a.—The sheep's head. Sargas ovis of North America. Upper jaw.

the jaws the epidermis first grows into the dermis and then the dermal tooth papillæ are developed. In the higher vertebrates, teeth of the jaws alone develop in the modified way noted in the shark's jaw.

The pulp cavity contains blood vessels and nerves which enter through the opening in the root and in the pulp cavity ramify over that delicate fibroid cellular structure, the pulp. This is continuous with an infantile number of small projections which extend into the tubes of dentine in the inner structure of the tooth. These tubules when fresh contain nerve and vascular processes from the pulp.

The use of the word pulp dates back, as L. C. Ingersol, Keokuk, Iowa, points out, to the time when the teeth were considered bones and when brain and bone marrow were held to be the same tissue. The brain, as Ingersol states, might with equal propriety be called the cranial pulp as the central organ of the tooth structure, the dental pulp. In Ingersol's opinion, dental ganglion is more in keeping with its character and function. It is vesicular or corpuscular ganglion rather than a tubular or fibrilous one. The nerve cells are multipolar, contributing nerve force rather than acting as conductors of sensation. (Fig. 7.) The physiologic relations of the peripheral dental plexus to the dental ganglia is most apparent in pathologic states. When an operator is working in the periphery of the dentine, the patient often insists that the instrument is in contact with the nerve. The pain is so intense and deep-seated as to be attributed to the central nerve. The converging nerve fibers afford a direct connection with the dental ganglia. Pathologic conditions of the periphery are readily communicated to the nerve center. Dentists, according to Ingersol, are so accustomed to associating fibrils of the odontoblasts with the dentine that they are apt to lose sight of their true character as prolongations of the pulp. The investigations of Tomes and others show that so-

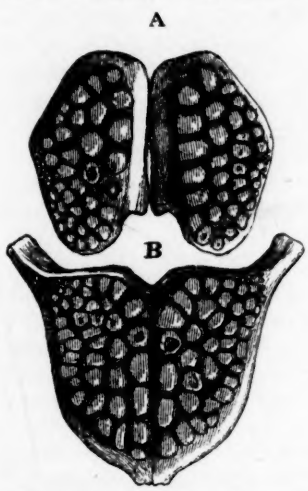

Fig. 7.—Pharyngeal bones and teeth of Pogonias chromis. Drum fish.

called dental fibrils are nerve fibrils—that whatever else may surround them in the tubules, they contain at least a filament of nerve tissue with characteristic nerve functions. Sudduth, while willing to admit that the fibrils perform the function of nerve tissue, doubts whether true nerve fibrils have ever been demonstrated. The dental fibrils arise from the odontoblasts which are intimate in relation with the terminal fibrils of the main nerve trunks of the pulp. The tooth pulp on whose surface the odontoblasts lie, is composed, as Stowell[3] points out, of connective tissue nucleated cells, blood vessels and nerves. The latter ends in non-medullated fibers, most numerous upon the peripheral portions of the pulp in juxtaposition with the odontoblastic layer, some of the fibers of which pass between the cells of the latter, from which it has been inferred that they accompany the dental fibers to their termini.

In batrachians like the frog, teeth are wanting in the lower jaw. In the upper jaw they are found in two situations. Along the outer border within the lip there is a single row situated in a groove. They are also situated in a group on each vomer in the center of the vault. The roots of the teeth possess large cavities, the wall being thin and almost of even thickness except on the inner surface of the basal portion, where the wall is wanting, and so forms a large aperture to the root for the pulp. This, as Ecker has shown, is composed of connective tissue very rich in cellular elements. The cells next to the dentine are arranged in a layer and resemble very much the appearance of a layer of columnar epithelium. The arrangement of the minute structures are not unlike those of the human pulp. The odontoblasts are spindle-shaped and send processes (dental fibers) into the dentinal tubules. Blood vessels are observed, but nerve fibers have not been found.

What is true of the frog in regard to large foramina in the teeth is also true of the *Sauropsidæ*, like the alligators and some snakes (the python), etc. (Fig. 8.)

Many years ago Geoffrey St. Hilaire described a series of vascular pulps on the margin of the jaw of parakeets about to be hatched, which, though destined to form a horny bill and not to be calcified into teeth, strikingly recall dental pulps. The famous fossil bird of the lithographic shale of Bavaria, had a long jointed tail and possessed teeth. Up to the discovery of this bird toothed birds had been unknown. Later, however, Prof. Marsh found nine genera and twenty species. They are referable to two widely different types. One group con-

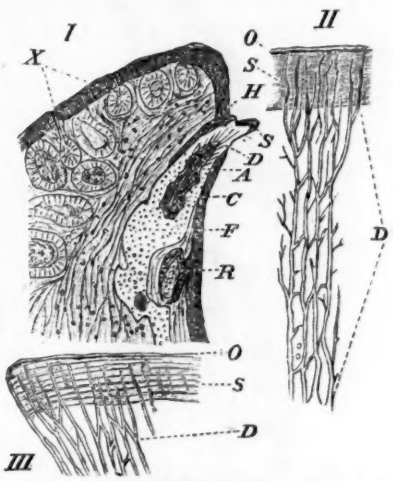

Fig. 8.—1. Transverse section of the premaxillary bone to show attachment of the teeth; after Hertwig. Magnified 22 times. 2. Dentine and enamel. Magnified 500 times. 3. Enamel. Magnified 500 times. *A.* Blood vessel of the pulp cavity. *C.* Crusta petrosa. *D.* Dentine. *F.* Processus dentalis. *H.* Layer of epithelium. *O.* Tooth cuticle. *R.* Second tooth germ. *S.* Enamel. *X.* Cutaneous glands.

sists of comparatively small birds with great power of flight and having their teeth implanted in distinct sockets (*Odontotornæ*, of which the genus *Ichthyornis* is a type). The other group consists of very large swimming birds without wings, having teeth in grooves (*Odontocæ* type, genus *Hesperornis*).

In *Ichthyornis* the teeth were about twenty-one in number in each ramus, sharp-pointed and recurved. The crowns were coated with enamel. The front and back edges were sharp but not serrated. They were implanted in distinct though shallow sockets and the maxillary teeth were a little larger than those opposing them. The premaxillaries were probably edentulous and perhaps covered with a bony bill. In the lower jaw the largest teeth occur about the middle of the ramus, those at its posterior end being materially smaller and the sockets are deeper and stronger than in the upper jaw. The succession takes place vertically.

The genus *Hesperornis* (probably diving birds) includes species six feet in length. The teeth are not implanted in distinct sockets, but lie in a continuous groove

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like those of the *ichthyosaurus*. The slight projection from the lateral walls indicates a partitioning off into sockets, nothing more than this is attained, and after the soft parts perish the teeth are easily displaced and had often fallen out of the jaws. The premaxillary is edentulous, but the teeth extend quite to the anterior extremity of the lower jaw. In one specimen there are fourteen sockets in the maxillary bone and thirty-three in the corresponding lower ramus.

The successional tooth germs were formed at the side of the base of the old ones and, causing absorption of the old roots, migrate into the excavations so formed, grew large and ultimately expelled their predecessors. (Fig. 9.) In structure their teeth consist of hard dentine invested with a rather thin layer of enamel and have a large axil pulp cavity. The basal portion of the roots consists of osteodentine. The outer side of the crown is nearly flat, the inner strongly convex. The junction of these surfaces is marked by a sharp ridge not serrated.

The monotremes, the lowest mammals, lay eggs, have a cloaca and are without nipples, the milk exuding from pores in the skin. The temperature is lower than that of other mammals. The *Echidna* have a temperature of

Fig. 9.—Tooth of Hesperornis regalis, enlarged eight diameters. Marsh.

70 degrees. The skull is long and depressed; there is a large rounded brain case with thin walls as in birds. There are no true teeth in adult life. In the young ornithorhynchus are three flattened saucer-like teeth, in each half of the jaw, which are afterwards shed and replaced by projections or cornules. The ornithorhynchus has a broad, flat rostrum, forked in front which supports the beak and in which the teeth first and later the cornules are implanted. In the *Echidna,* the snout is long, narrow and toothless, forming a long tube for lodgement of the tongue, as in the true ant-eater. In the *Proechidna* the snout is nearly twice as long as the brain case. The palate of the *Echidna* is covered with rows of horny spines which scrape the ants off the tongue when it is drawn into the mouth. The ornithorhynchus muzzle resembles a duck's bill and is provided with the cornules that take the place of the true teeth. The upper teeth have broad-topped crowns with two long cusps on the inner edge and a crenated border along the outer edge with many small cusps. On the lower this is reversed. They have low broad crowns with short stunted roots, which are for a time rather firmly held. They are on the top of the horny plates. The expanded crowns narrow rapidly at the neck and are surrounded by a very dense thick epithelium almost horny that rises into a ring around them and dips underneath the expanded portion so that the crown lies in a special cup of horny consistency.

This cup is not complete at the bottom, but the roots pass through it and fit depressions in the bone which is perforated by the foramina for vessels and nerves. When the animal is about twelve inches long the teeth are shed and then the horny cups grow in, underneath and become complete. The curiously sculptured surface of the horny plates has its form determined by having formed the bed for a tooth with several roots. Although the horn grows underneath and fills up the holes for the roots to go through, yet the old form is maintained by the horny plate, which henceforth serves for mastication.

The horny plates are therefore not to be regarded as horny teeth, but are epithelial structures which take the place of the teeth. They are hence not closely homologous with the horny teeth of lampreys and myxinoids. The true teeth consist of a body of dentine with a central pulp cavity capped with thin but hard enamel and implanted by short roots, the breadth of crown exceeding its vertical dimension. The enamel is of simple structure. The dentine is permeated by fine dentinal tubes beset with a number of interglobular spaces, which in parts masks the tubular structure of the crown. In the principal cusp apparently vascular canals exist. Toward the stunted roots a somewhat abrupt transition in structure takes place. All dentinal tubes disappear and large lacunae appear. The roots are of softer, coarser material than the crown, which is itself not a high type of dentine structure. There are some resemblances between the root type of the ornithorhyncus and that of the hesperornis.

Among the marsupials the dentition varies widely; this is hardly surprising since the marsupials are practically a distinct order of the mammalia containing representatives of the *Herbivora, Carnivora* and *Insectivora* of the other mammalia. The teeth are separable into different classes, but with the exception of the premolar are not preceded by milk teeth. The wombats, who represent the *Rodentia* among the marsupials, are the only ones which have rootless teeth and an equal number of incisors in each jaw. The incisors are large and cutting with the enamel confined to their anterior surface. There are no cuspids.

Among the marsupials there is a vertical displacement and succession of the teeth except in the case of a single tooth on either side of each jaw, which is always the hindmost of the premolar series and is preceded by a tooth having the character of a true molar. This is the only one comparable to the milk teeth of the higher mammalia, all the other teeth remain unchanged. This succession of teeth would indicate open pulps with large foramina in the roots of the teeth.

Among the mammals are forms which are absolutely edentate, have long scaly bodies and short legs and look more like reptiles than mammals. The teeth when present are always composed of dentine and cement only (without enamel), and never form roots. In only one genus (*Tatuania*) is there a functional milk dentition, one only (*Dasypus*) possesses premaxillary teeth, and in none is there any definite division of those in the maxilla into cuspids, premolars and molars.

The aard-varks have a very peculiar complex type of teeth, consisting of a very large number of separate parallel dental systems closely packed together. These teeth are preceded by a set of minute milk teeth, mere remnants of a former functional set, which show in-

dications of a division into different groups, such as pre-molars and molars.

The armadillos have thick plates of ossified skin covering the body. In all the group teeth are present, generally twenty-eight to thirty-eight in number, but in the giant armadillo amounting to eighty to one hundred. These teeth are small and simple with single roots.

Passing upward from the papilla which forms the tooth of the placoid scale type, the relations of the pulp as regards persistence and inclosure vary widely. Permanent pulps are found quite high in the mammalia. The mastodon had permanent pulps which continue to grow and are partly coated with enamel. In this particular they resemble the rodents as well as in the absence of cuspids. There are toothed whales or *Odontoceti,* and baleen whales or *Mystacoceti.* The *Odontoceti* have no whalebone, but always possess teeth which are generally numerous, although sometimes few and quite rudimentary in size and function. The narwhal has the most extraordinary dentition of any mammal. It has only two teeth in the adult state, both of which lie horizontally in the upper jaw. In the female these remain permanently concealed within the bones of the jaw, so that this sex is practically toothless; but in the male, while the right tooth remains similarly concealed and abortive (as shown in the skeleton by removal of part of the bone which covered it) the left is immensely developed, attaining a length equal to more than half that of the entire animal, projecting horizontally from the head in the form of a cylindrical or slightly tapering pointed tusk, with the surface marked by spiral grooves and ridges.

Although the so-called "whalebone whales" (*Mystacoceti*) have rudimentary teeth developed at an early period of life, these soon disappear and their places are occupied in the upper jaw by the baleen whalebone.

Baleen or whalebone resembles in development the cornules of the ornithorhyncus. Each plate is developed from a vascular persistent pulp which sends out numerous long thread-like processes that penetrate far into the hard substance of the palate. Each hair-like fiber has within its base a vascular filament or papilla, and, in fact, is nothing but an accumulation of epidermic cells concentrically arranged around a vascular papilla, the latter being enormously elongated. The baleen plate is composed mainly of these fibers which constitute the hairs of its frayed-out edge. In adition to this, layers of flat cells bind the whole together and constitute the outer or lamellar portion. The whalebone matrix produced by cornification of the epithelial coverings of papilla is an epithelial epiblastic structure morphologically corresponding, not with dentine, but with the enamel. The whole whalebone plate and the vascular ridge and papilla which form it are comparable to the strong ridges upon the plates of certain *Herbivora.* Study of the mouth of young whales prior to the cornification of the whalebone tends to demonstrate this. This is obviously a return to the placoid scale type carried into the interior by the mouth changes. The development recalls that of the spines on the palate of the echidna.

Manatee teeth have peculiarities unusual in mammalia. The dentine of the hard unvascular variety is permeated by a system of larger or vascular canals arranged with much irregularity and most abundant near to the periphery of the dentine where they communicated with one another. The dentinal tubes did not radiate from these vascular canals. There is an ordinary unvascular dentine with a system of capillary conveying channels inside it. These capillary channels are no longer previous, having become obliterated and presenting the appearance of greatly elongated interglobular spaces. The cuspids among the bunodonts (swine and hippopotami) are partially or wholly devoid of enamel and grow from persistent pulps. The incisors also in the hippopotami grow from persistent pulps as in *Rodentia.* While the hyrax or coney and the rhinoceros have similar molars, the first resembles the rodents in dentition because of the larger size of its central incisors, which grow from persistent pulps, are chisel-edged, prismatic in section and furnished with a thick coat of enamel on their antero-external and antero-internal faces. The second pair of incisors which is small is soon lost. There are the full typical number of premolars and molars and the patterns of these teeth closely resemble those of the rhinoceros. In the lower jaw the middle incisors are small and the outer ones largely developed and all persist. Their crowns are trilobed and pass in ordinary closure of the mouth behind the upper incisors, where they are met by a dense pad of gum, but they are not of persistent growth.

The *Rodentia* are characterized by want of cuspid teeth and by peculiar structure and great development of their incisors. The majority have but a single pair of incisors above and below. These teeth are large, curved and adapted to gnawing purposes by sharp, chisel-like edges, formed by the hard outer coat of enamel restricted to their front surfaces and wearing more slowly than the softer dentine or tooth core. These teeth during life grow from their roots as fast as they wear down at their tips. Should one be destroyed or diseased, the corresponding tooth in the opposite jaw, which ought to have been worn down by it, continues to grow until it may even bring about the death of the animal by preventing the mouth from closing and thus cause starvation or by curving over enter the back of the head.

An extinct order, *Tillodontia,* seems to combine characters of several distinct groups; *Carnivora, Ungulata* and *Rodentia.* The *Tillotherium* skull (Marsh, the type skull of the order) has the same general form as the bear, but in structure resembles the *Ungulata.* The molars are of ungulate type, the cuspids are small and in each jaw there is a pair of large scapriform incisors faced with enamel and growing from persistent pulps as in rodents. The second pair of incisors is small and has not persistent pulps.

The *Insectivora* have small brains and small faces. Some approximate rodents and others the lemurs. The galeopithecus, which was formerly placed with the lemurs, forms one group. The other *Insectivora* are divided into two groups by the pattern of the molars. The majority present a W-pattern, while the others have narrower molars with a V-pattern.

The insectivorous bats have small incisors, rather large cuspids and molars which present the W-pattern.

The lemurs usually have the upper incisors very small and widely separated from each other. In the cheiromys, the incisors form a single pair of large curved teeth, growing from persistent pulps and wearing obliquely so as constantly to preserve a sharp cutting edge. The enamel is very much less thick, yet not altogther absent upon the backs of the upper incisors. The lower incisors are very narrow from side to side and very thick from back to front, are composed very largely of enamel, the dentine constituting but a small part. After considerable interval, which is devoid of teeth, there follow four upper and three lower teeth, which are not of per-

sistent growth, but have definite roots and resemble the molars of many omnivorous rodents.

The *Simiadæ*, or true monkeys, are divided into the new and old world monkeys. The new world monkeys are divided into the marmosets and the *Cebidæ*, the marmosets have only thirty-two teeth, unlike the others, which have thirty-six. They have three pre-molars on each side. The old world monkeys have this same dental formula as man. The anthropoid apes resemble man in their dentition. The *Simidæ* and *Anthropoidæ* (except a generalized type found by Ameghino in the tertiary of Paraguay, which has rodent, insectivorous and ungulate features) are identical as to pulp with man.

CONCLUSIONS.

In each order up to the primates occurs a difference in the size of the dental foramina, showing a struggle for existence between the organs.

In the evolution of the pulp from the placoid scales, the pulps are often many times larger than the scale. Sauropsidæan pulps are generally as large, and sometimes larger than the tooth.

Shark teeth from their groove type have large pulps. The rooted part of each tooth is greater than the exposed and is hinged. The early teeth are formed in groups in place of sockets.

The formation of projections in the grooves of toothed birds and in some mammals show where change from open sockets to closed foramina of the teeth occur.

The variations which produce the toothless birds, the ornithorhyncus and the baleen whale to the lower dental types indicate that degeneracy in an organ which is for the temporary benefit of the type as a whole. The persistency of open pulps at the expense of the tooth as a complete type is an indication in the same direction. The relation between the dermis and the teeth as shown in pangolins, armadillos, hairy men and men with horny teeth, hairless dogs, etc., continues quite high in the scale, and is still to be reckoned with as a factor in pulp evolution.

When the dental blood supply is cut off and nourishment ceases, from the closing of the foramina, in man and some lower vertebrates, teeth virtually become foreign bodies.

Decay is therefore a natural process of excretion. When the teeth become foreign bodies, blood vessels approach but cannot enter them, hence they are blank walls where circulation ceases. The alveolar processes therefore are easily absorbed through metabolic change, causing interstitial gingivitis.

Since blood does not reach the enamel and dentine and nutrition is cut off, tooth decay is controlled by the trophic nervous system.

The pulp is, hence, still a transitory structure in human evolution, and hence one on which nervous and metabolic storm and stress exerts a strong play.

DISCUSSION.

DR. VIDA A. LATHAM, Chicago—I want to emphasize the value of comparative histology and anatomy. Dr. Talbot's paper has pointed out to me that there is some ground for my statements regarding the germinal layers. He is considering it in the evolution of the pulp. He gives as his analogue the kidney, which organ was so little understood until Heidenhein made his researches, but to-day is placed as a purely secretory and excretory organ. I think we can make a beautiful analogy between the cells of the kidney and the odontoblastic layer.

Regarding the formation of enamel, the question comes up: Does enamel form after a tooth is practically made, or do we have a continued formation of enamel? I believe we do. The use of dental irregularity apparatus shows this. It makes a dent or impression and by friction a small pinhole, and later you will find a projection of enamel grow out. I believe that enamel does not always stop forming when it covers the tooth any more than skin ceases to grow. In the rat the blood reaches the enamel. This is another point to prove the value of comparative histology.

DR. TALBOT, in closing—In a review of one of my books a short time ago, exception was taken to the question and answer: "Is degeneracy or arrest of development of jaws and teeth a cause of decay?" The answer was: "Yes, it is the principal cause. It is a matter of record that teeth decayed more rapidly on the upper jaw than the lower." The reviewer said that was not true. He stated also that the further away from the salivary ducts the greater decay, therefore teeth decay more rapidly on the lower jaw than on the upper. The constitutional cause producing decay was entirely ignored by him. The evolution of the pulp must be considered as the principal argument. It is the pulp itself that must be studied from its evolution and histology in order to understand decay of the teeth. The decay of teeth and diseases of the alveolar process are degenerated in the lower animals in which series of animals there are teeth with open pulps, and large foramina. The blood flowing in keeps them in a normal healthy condition. Ascending the cycle of man the ends of the roots close up and they become to a certain extent foreign bodies, and here I wish to demonstrate a point in regard to senile degeneration: The patient was an editor of a journal, but on account of change in administration was appointed postmaster with a double amount of work. He had been a patient for thirty years, and had exceptionally hard teeth, like flint, and without decay. In six months after becoming postmaster he had neurasthenia, as a result his teeth cut like horn and had a general pathologic appearance. This senile condition comes on after 40 or 50 years of age, and when in addition the nervous system is overtaxed not only do the teeth decay more rapidly but other structures of the body give out.

The rudimentary enamel organs are found in all structures of the human as well as in the animal. There is no question in my mind but that Magitot and other investigators brought out the true conditions of these cells which Black calls glands. They are nothing more than rudimentary organs which would have gone to form extra teeth, as found in some of the lower vertebrates who possess from 42 to 72 teeth. These are the rudimentary organs which are not used at the present time on account of the law of economy of growth.

A COMPARATIVE STUDY OF THE ATTACHMENT OF THE TEETH.*

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CHICAGO.

That the teeth are not a part of the osseous system, but are appendages of the skin supported, in man, by a special development of bone forming the alveolar ridges of the maxillary bones, is as well established as any fact concerning human dentition. The work of Oscar Hertwig, "Ueber Bau und Entwickelung der Placoidschuppen," published in *Jenaische Zeitschrift*, 1874, established very clearly the homology existing between the teeth and the dermal or placoid scales of the ganoid, silurioid and dipnoan fishes, both as to similarity of structure and development.

Much has been written descriptive of the teeth of various animals, their modifications of form and attachment to adapt them to modifications of function, and various classifications of the means of attachment have been made. Of these perhaps the best and most logical is given by Charles Tomes in his "Dental Anatomy," describing four forms of attachment: 1. By fibrous

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

membrane. 2. By hinge joint. 3. By ankylosis. 4. By insertion in a socket.

I wish simply to take up these various forms of attachment and show if possible the comparison between them and the evolution of the more complicated forms from the simpler. We must begin with an examination of the structure and attachment of the placoid scales and the simplest form of tooth as illustrated in the shark.

The dermal scales are composed of a conical cap of calcified tissue developed from within outward, by an epithelial organ and corresponding in structure to the enamel. This cap is supported upon a conical papilla of calcified tissue formed from without inward and corresponding to dentine. In the outer layer the arrangement of the fine tubules through the calcified matrix correspond very closely to human dentine, but in the inner portions it is to be understood only by considering the formation of the dentine as progressing irregularly over the surface of the pulp and so dividing the pulp tissue into portions inclosed in large canals from which the fine tubules radiate. The base of this partially calcified papilla has a calcified connective tissue built onto it by the derma, which corresponds to cementum, forming the basal plate, spreading out more or less in the connective tissue layer of the skin and into which the fibers of this layer are built, so attaching the denticle or dermal scale to the deep layer of the coreum. This tissue very exactly resembles cementum. It is formed on the dentine as the cementum of a human tooth is and shows the connective tissue fibers imbedded in it. In the ganoids the basal plates of adjoining scales unite, forming the armor plates of such fish as the sturgeon and gar pike, and the denticle remains projecting from the surface of the plates.

In the simplest teeth, as of the shark lamna, which are typical dermal scales, we have an exactly similar method of attachment which may be taken as the simplest and most rudimentary attachment in a fibrous membrane. That is, there is no development or modification of the arch of the jaw and the teeth have no direct attachment to the bone, in fact, the jaws themselves are chiefly cartilage.

The formation of the hinge attachment, as illustrated in many of the fishes, may be understood as a modification of the attachment in a fibrous membrane in a more highly specialized creature. These hinged teeth are found in many fishes and in the poison fangs of the snakes. The jaws are calcified and the basal plate or cementum may be considered as confined to or specially developed on one side of the dentine papilla, which is also more highly developed, especially in the snakes. This cementum is built and calcified around the fibers of the fibrous tissue which pass directly to the bone of the jaw at that point. This bone is to be regarded as an addition to the jaw specially developed for each tooth. We have, then, not only a modification in the arrangement of the cementum, but a development of bone for attachment of the tooth. The blood vessels pass through the fibers of the hinge to the pulp and are not affected by the motion of the tooth on the hinge, in fact, the pulp seems to be attached to the hinge. There are many complications of this method of attachment, but this may be taken as the type and the manner of its modification from the rudimentary conditions. The distinctions in this form of attachment from the dermal scale are a modification of the arrangement of the cementum of the basal plate and a development of bone from the jaw to attach fibers which pass from cementum to bone directly. It should also be said that there are developments in the hinge teeth related to the third form of attachment, namely ankylosis, which can not be understood until this form is studied.

The third form of attachment, ankylosis, or direct calcified union with the bone of the jaw, cannot be understood without a careful study of the nature and formation of the dentine in these rudimentary teeth. It is evident from a study of the dentine of the dermal scales that compared with human dentine the tissue is rudimentary and undifferentiated from other similar connective tissues. The tubules are comparatively very irregular and resemble very strikingly the tubules found in the secondary dentine formed by a degenerating pulp. The odontoblasts or dentine-forming cells are not like the highly specialized cells which form the primary human dentine, but resemble very closely simple spindle-shaped connective tissue cells, the nucleus is larger and oval in form and the protoplasm stretches off from it in one direction into a fibril instead of two directions into a spindle. The cells are much smaller than human odontoblasts and nearer the size of ordinary spindle cells of the human pulp. In fact, they look more like specially developed spindle cells than odontoblasts. The formation of dentine begins on the surface, at the apex of a cone-shaped papilla of connective tissue and proceeds inward. If the formation continues uniformly over the surface of the papilla a solid layer of fine tubuled dentine results, but it often proceeds irregularly, apparently having special reference to the neighborhood of blood vessels, so that irregular projections of dentine are found on its inner surface, dividing the pulp more or less into portions inclosed in larger channels or tubes. These may be very regular in arrangement and form around blood vessel loops imbedding the blood vessel in the calcified tissue, forming what has been called vaso- or vascular dentine; but the formation is still from the surface of the pulp until it is obliterated, except for what remains in the larger canals. As distinguished from this formation of dentine we find in the body of the dental papilla of many fishes the formation of spicules of calcified tissue, shooting down through the substance of the pulp which resemble neither dentine or typical bone. They are more to be compared with the first formation of bone in membranes, or in the embryonal connective tissue of the body of the human jaw, which is afterward removed by absorption and replaced by true Haversian system bone. These calcifications contain lacunæ and have tubules or canaliculi running through them, and so, as Tomes says, are intermediate between dentine and bone. They divide the pulp into irregular spaces and interdigitate or perhaps actually join the formation of dentine which has been progressing from the surface of the pulp. These spicules run down into the bone of the jaw, forming an actual calcified attachment for the tooth with the jaw, but in this view of it it is to be regarded as a calcification or rather a formation of bone in the pulp papilla interlocking with the dentine. In some of the fishes, as in scarus, there is at the same time the remains of the cementum of the basal plate formed on the outside of the dentine around the base of the cone, which includes fibers which pass to the surface of the bone. Ankylosis is confined to the teeth of bony fishes and may be stated as a modification from the dermal scale resulting in the reduction or loss of the basal plate and an ossification of the pulp continuing through the connective tissue at the base of the pulp to the body of the jaw.

The development of the fourth form of attachment, by implantation in a socket, seems to be an evolution starting from the same point but proceeding in a different direction. It is associated with the very great increase in the size of the teeth and consequent necessity for stronger attachment. This evolution is illustrated in the teeth of the reptiles. Wiederscheim classifies the teeth of reptiles as, 1, resting on a ledge on the lingual side of the jaw, pleurodont dentition; 2, resting on the upper border of the jaw with a slight ridge around them, acrodont dentition; 3, lodged in permanent alveoli, as in the crocodiles, thecodont dentition. These three classes illustrate three stages in the development of the socket method of attachment. In the simplest form there is a cone-shaped tooth attached to the bone around its base by fibers being built into the cementum and the bone. There is a little modification of the rudimentary form and little development of bone for its attachment. In the higher form the tooth has become long or peg-shaped and the bone has grown up around a portion of it to support it, but it is attached to the bone by connective tissue fibers being built into the cementum on the surface of the peg and into the bone of attachment on the jaw. The development of the form of the tooth to the peg from the cone may be understood as a continuing of the development of odontoblasts and the formation of dentine (which always begins at the apex of the cone) farther and farther down on the sides of the dental papilla. Then the formation of cementum which begins around the base of the cone and continues down on the outside of the calcified dentine, covering its outer surface and building the connective tissue fibers into the tooth. The development of the bone accompanies, or rather follows, that of the tooth, building the other ends of these fibers into the bone which is developed to support the tooth.

While this probably represents, in a rough way, the manner of evolution and differentiation of the teeth and their attachment as shown by the works already published in this field, there is still some work to be done in the study of the development and specialization of the dental tissues, and especially in the study of the relation between the bone of attachment and the cementum. I had hoped to have some things to present in this study, but the failure of material makes it impossible at this time.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago—The evolution of teeth and their attachment is similar to that of the dental pulp. In the placoid scales, from which all evolution must start, the fibrous tissue that forms the inner part of the tooth has more nourishment. In the second class (the tooth of the shark and fossil) there is the hinged joint. Where the teeth lie along the borders of the jaws in a fibrous depression, there is the highest type of physical tooth development. The cone-shaped teeth have an immense blood flow to keep the structures in healthy condition. In ascending the scale the third form of tooth attachment changes in the alveolar processes for the purpose of making sockets for higher tooth development. The roots of the teeth are developed. The difference in evolution is important in the teaching of students.

DR. VIDA A. LATHAM, Chicago—I would like to know if true ankylosis has been found in man. I once had a case which I had the late Prof. C. L. Ford examine, and he thought it as near true ankylosis as he had ever seen, but said he had never known it to occur in man! I do not believe it was overgrowth of the cement, but the jaw was broken in getting the tooth out.

The author states that the odontoblasts are first formed on the surface of the pulp. I would like to ask, why do they form there, and when? There is no more dentine on the surface of the teeth than there is laterally. Another point: Does the pulp of teeth that are moved in irregularity cases increase in the amount of connective tissue? It may, and that may also cause some teeth to die from circulatory disturbance and fibrosis. I would like to know of some irregularity cases where for special reasons we have a chance of extraction to decide this point. We sometimes have fibrous tissue resorbed, but usually the pulp lowers its vitality. That would also bear on the different types of teeth.

ACUTE GASTRO-ENTERITIS OR SUMMER DIARRHEA OF INFANTS.*

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SPRINGFIELD, ILL.

Each year, as the temperature rises in June, all large cities are attacked by serious epidemics of diarrheal diseases in infants. These cases become more numerous as the summer advances—the mortality resulting usually being highest in August when infantile vitality has been reduced by the long continuance of heat. The cases always decline in number and severity as the days become cooler.

HEAT AS A CAUSATIVE FACTOR.

Judging from these facts it is certain that heat plays a very important part in causing these annual epidemics, and it is probable that it is a factor in several different ways.

In the first place, a very large percentage of the children affected are artificially fed. Dr. Holt has reported that out of nearly 2000 cases he investigated, only three children were exclusively breast-fed. Heat favors the growth of germs either in cow's milk or the prepared food given the child.

In the second place, the heat dries the soil, and all sorts of material in the city streets, and dust results, in which pathogenic and saprophytic germs are spread broadcast, finding lodgment in the food prepared for the child, in milk displayed for sale at the corner grocery, and on the hands, face and toys of the infrequently washed baby of the slums. Anything that a child has on its hands or toys, sooner or later finds its way into its mouth. Thirdly, the intense heat lowers the child's vitality, and its power of endurance is lessened. Its cells are not able to resist the effects of toxins generated in its intestinal canal. In addition to the heat of the atmosphere, these poor little unfortunates nearly always have to bear the weight of countless layers of clothing. Repeatedly I have found a feverish little child wearing a thick cotton flannel diaper, a heavy flannel shirt, a woolen or knit binder, a flannel petticoat, a muslin petticoat, a dress, a cloak and a cap! All this with the thermometer at 98 degrees in the shade, and heat prostrations occurring at every corner. Lastly, the intense heat produces unusual thirst, and the child is cross and fretful. Usually the mother's attempt to soothe consists in putting the child to the breast or forcing the nipple of the nursing bottle between its lips; hence its stomach is overloaded, and digestion is incomplete. A great many mothers, otherwise intelligent, fail to realize that babies need water.

OTHER FACTORS.

Occasionally water itself may be the source of infection, if it is given unboiled. Improper feeding irrespective of the effects of heat on food is in itself a prominent cause of these diarrheal troubles. A large propor-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

tion of the cases I have seen were fed on condensed milk. These children were usually fat at the beginning of an attack, but as in every other instance in which I have had to deal with infants so fed, they succumbed very rapidly and quickly become emaciated. In such instances the stools were highly acid, the buttocks excoriated, and frequently the whole skin covered with an eczematous eruption.

In cases where cow's milk forms the basis of the food, often an inferior grade of milk, sold by the bulk, and not bottled, is used. This is partly on account of the cheapness of such milk, and partly because the corner groceries in the tenement-house districts, where such epidemics are worst, usually carry no other kind.

In some few instances mothers have suggested to me that because they Pasteurized or sterilized the milk, they thought it unnecessary to bother about its quality. The germs were all dead at any rate. They did not realize what Vaughan has taught us—that some of the toxins, generated before milk undergoes lactic acid fermentation, are deadly even in small quantities, and that they are not rendered innocuous even by exposure to very intense degrees of heat.

In a very few instances women who Pasteurize or sterilize milk are careless about it afterwards, leaving it in open receptacles, and the like—not realizing that milk that has once lost its vitality by exposure to heat, is much more readily infected by germs than if it had not been sterilized at all. If milk is sterilized or Pasteurized it must be done in the bottle from which it is to be fed, and must be kept carefully sealed and cooled in the interim.

In the tenement-house class from which the largest number of these cases come, few infants after the first few weeks are exclusively breast-fed. Very early, while still on the breast, they are allowed to share the family meal. Strong coffee, over-ripe bananas, cabbage and stale beer are a few of the things I have known to be given to nursing infants.

In strictly breast-fed children, who more rarely suffer from severe diarrheal troubles, probably the heat, overfeeding and dust on hands and unclean nipples are the chief causes, though occasionally a deteriorated mother's milk may act as an irritant.

THE GERMS.

Bacteriologic studies of the stools of these cases have been made by Booker of Baltimore, Baginski of Berlin and others. No specific organism has been isolated. The chief varieties found have been saprophytic germs, especially the hay bacillus (Bacillus subtilis) and germs of the Proteus type, whose chief action is to produce fermentative and putrefactive changes in the food present in the alimentary canal, thus generating toxins. They do not prey upon the living intestinal walls, but it is probable that in long-continued cases the intestinal mucosa becomes so devitalized that other bacteria present find a lodgment and produce inflammatory and even destructive changes.

LESIONS.

In a large number of autopsies reported by Holt and Kerley, the most marked changes noticed in the intestinal tract were irregular areas of intense congestion and redness, and swelling of Peyer's patches and the lymph nodes.

SYMPTOMS.

The beginning symptoms are chiefly vomiting and fever, quickly followed by frequent stools with pain. Very soon there is more or less prostration, due to the absorption of toxins. Excepting in the most severe cases the temperature does not often exceed 102 or 103 degrees, unless the effort of nature to rid itself of poisonous material is checked by the administration of opium, in which case the temperature may go up to 105 or 106 degrees, and the prostration be much increased.

Frequently in such cases the druggist is consulted, and the child is first dosed with colic and diarrhea mixtures before the physician sees the case. Often a simple diarrhea, which might have been easily controlled, by such unfortunate treatment is changed into an alarming condition of toxemia from which the child may never rally.

The stools vary in number from four to twenty a day. They are usually small and foul-smelling. Often they are of a pasty or putty-like consistency and color, containing particles of undigested curds. Still more frequently they are a bright green, the typical chopped spinach stool. They are green when first passed, and are not to be confused with the normal stools, which become green after exposure to the atmosphere—frequently to the great concern of over-anxious mothers.

In cases verging on the choleriform type the stools are serous in character. If the infection continues many days the feces may contain mucus and blood, showing that the case has changed from a mere toxemia to an actual inflammation of the alimentary mucosa.

The prostration may be extreme, even after a very short time. In a case I saw with Dr. Elizabeth Hatton of Brooklyn last summer, after only a few hours' illness, there was a rectal temperature of nearly 106 degrees, a cold bluish surface, unconsciousness, a scarcely perceptible pulse, sighing respirations and repeated convulsions. This was not a case of true cholera infantum, for the stools were not serous, and the child made a speedy recovery.

DIAGNOSIS.

With the symptoms noted there is rarely any difficulty in diagnosis. In the beginning the disease might be mistaken for the beginning of a pneumonia or one of the eruptive fevers.

PROGNOSIS.

The outlook varies with the length of time before treatment is begun, and with the child's environment. In the rare instances where from the beginning the disease assumes a choleriform type, the prognosis is always grave, no matter how early the case is seen or what the treatment may be.

PREVENTION.

The means of prevention are chiefly three: To keep the child cool, to keep it clean, and to furnish it a proper quantity of wholesome food.

In all cases where it is possible, children who live in crowded cities should be removed to the country during the heated term, and if this is impossible, as it usually is, the child should be kept in the parks a large part of the time, or, if all else fails, he should be kept out in the streets in shady places.

Mothers should be taught the great importance of frequent bathing of the child. Not alone for the sake of cleanliness, though the possibility of infection through dust should always be thought of, and every means taken to prevent it, but to increase the child's comfort and health by keeping it cool. On very hot days repeated sponging will greatly add to the child's comfort and safety. Mothers who nurse their children should be taught the absolute necessity of scrupulous

cleanliness of the nipples, not only in early infancy, but throughout the nursing period.

Since mothers' milk affords the only ideal food supply, the physician should use every effort in his power to secure it to the child, including the powers of moral suasion where mothers are indifferent to the necessities of their children. Few young mothers realize the risks of artificial feeding. They see the advertisements of baby foods on every hand, which in some instances claim to be improvements on nature, and they are accustomed to the idea. It is often ignorance rather than unwillingness to bear their maternal responsibilities that induces young mothers to rear their children on the bottle. If the milk is inadequate it may be added to by other foods, while the physician endeavors to increase the quantity by attention to the mother's diet and by tonics. If the milk is of poor quality it may often be improved by attention to the mother's health. But when all is said and done there remains a very large class of women who can not suckle their children, and it is the very class from which the largest number of these diarrheal cases come. The women of the tenement-house whose sole diet, in too many instances, consists of boiled tea and bread, can not produce milk.

In all cases where artificial feeding must be resorted to it is the duty of the physician to prescribe a food, using as a basis fresh cow's milk from healthy animals, kept clean and cool from the time it is drawn from the cow until it is modified and then bottled and quickly recooled. Such milk may now be obtained in all the large cities. In New York and Philadelphia commissioners, appointed, in the one case, by the New York County Medical Society, in the other by the Philadelphian Pediatric Society, have examined dairies and the milk they produce, and have given certificates to those maintaining a certain standard. Such milk requires no sterilization or Pasteurization, and when properly diluted and modified affords the only safe and practicable substitute for mothers' milk.

In intensely hot weather it is always wise to limit the quantity of food, for the child's organism is depressed by the heat and is unable to digest the usual quantity. If the child is nursed the time it is allowed at the breast may be shortened, giving enough boiled and cooled water before each feeding to fill the stomach in part. If an artificial food is used it may be made decidedly weaker than usual.

TREATMENT.

When an attack has developed the indications are these: to clear out of the alimentary canal all of the offending material present as quickly as possible; to allay vomiting; to administer a food that will not afford a suitable culture-medium for germs; if possible, to destroy germs present, and to maintain the strength if there is much depression. If the child vomits repeatedly, washing out the stomach a single time will usually stop it; if not, minute doses of calomel will allay the gastric irritation in many cases, besides clearing out the intestinal tract, and acting as a powerful intestinal antiseptic.

In all cases where the stools are small and offensive, flushing out the colon is of great value, and even if it is only possible to do it a single time it is quite worth while. As a rule, children do not object very much to the high enema. More than once I have seen a fretful baby, evidently in pain, go to sleep during the irrigation. Either a weak boric acid or normal salt solution may be used, and the quantity large enough to ensure its returning clear. The temperature of the solution must be determined by that of the child. If the child is very hot the water used must be cool, while if the child is cold and collapsed a hot salt water enema will act as a powerful stimulant. Often much undigested food and foul-smelling fecal matter is washed out. If there is no nausea castor oil should be given at once, to clear out the rest of the canal. If there is nausea the calomel alone in 1-10-grain doses, repeated hourly until the characteristic odorless calomel stools appear, must be depended upor The child must be taken off milk at once, whether it be mother's milk or only an imitation of it, and it must not return to a milk diet until the stools become normal. For the first twelve hours or more it will do better without any food, giving it only cold water that has been boiled. Later a suitable substitute must be furnished. Animal broths, egg water, rice water, and barley water (either plain or dextrinized) have all been used, but I prefer one of the liquid preparations of beef peptonoids now put up by so many drug houses. I have been in the habit of giving one-half to one teaspoonful of the peptonoids in two or three ounces of boiled and cooled water, every two hours, until the stools become normal again. This affords a certain limited amount of nourishment in a form that is very easily assimilated and also a very little alcoholic stimulation. Children always take it readily. In addition, the child is always to be given all the cool boiled water that it will drink. When the fever continues high the child must be frequently sponged with cool water. After the bowels are thoroughly cleared out I usually give bismuth subnitrate in 10-grain doses, every two hours until the stools become black or dark green. Usually this treatment is sufficient to relieve an attack, but occasionally after the stools become normal in quality and the other symptoms disappear, the diarrhea continues, due only to an increased peristalsis. In such cases, and in such cases only, I give opium with great caution, either in the form of one-fourth grain of Dover's powder or a few drops of paregoric. While this treatment is being carried on, a change of air works wonders. Last summer I worked in a New York clinic, and it was often possible to send a mother and child to the beach, thanks to the many seaside charities near New York. Even when their stay there amounted to only a few hours, the effect was magical.

In every case, but especially where there are other children, and in institutions, the care-taker must be impressed with the fact that the disease is an infectious one, and that the discharges must be disinfected, the napkins boiled before using again and hands that have come in contact with the discharges thoroughly cleansed.

The after-treatment of these cases is of great importance. The chief necessity is an outline of diet, and in difficult cases the ingenuity of the physician may be taxed to the utmost. In some instances it seems almost impossible to return the child to a milk diet until the onset of cool weather. In some of these cases the proprietary foods are of value temporarily. In other cases a modified milk, partly or completely peptonized, may succeed where the undigested milk mixture can not be used at all.

In most cases the child can in a few days return to a milk diet, but it must be made very weak at first and given in small quantities, gradually working up to the usual strength and amount.

If the physician has not access to a milk laboratory, it is his duty to study the proportions carefully, and

to give written directions to the mother or care-taker as to the preparation of the food.

If the illness has lasted a long time and the child is much debilitated, suitable tonic treatment may be required.

MILK IDIOSYNCRASIES IN CHILDREN.*

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Some children will not tolerate milk; physicians frequently report an intolerance of milk or its dilutions in children. This condition has long been known among adults. We frequently hear adults say that milk makes them bilious, that it is not tolerated and that they feel uncomfortable after a milk diet. While this condition is of much rarer occurrence in children, certain cases are met in which milk is not tolerated. It has been the milk itself or the component parts of the same that has disagreed in certain children under the treatment of the writer. Breast milk and several changes of wet-nurses gave the same distressing symptoms. Cow's milk was not tolerated and was discontinued after various dilutions.

The following case will serve to illustrate what is meant by the above condition:

CASE 1.—An infant, M. L., was born in July, 1901. The weight at birth was about six pounds. The mother had no milk so a wet nurse was secured. The infant was wet nursed for the next three months. The child gained about eight ounces per week during the month of July, but in August and September it did not thrive.

History of Food After Weaning.—When the child was weaned, in October, it was given condensed milk, one dram to twelve drams of sterile water, to which one dram of lime water was added. The child vomited and had eructations, although it had from one to two yellowish stools per day. When this child was weaned it was always constipated and required an enema of plain water to relieve the bowel. The stools during the summer months contained a great deal of mucus which was shredded and yellowish-green in color. The infant was colicky; the stools had a very sour smell; the child frequently had an explosive vomit. The condensed milk was continued through the month of October and, as the child did not seem to thrive, it was given Just's food. This the child refused, so Nestle's food was substituted and seemed to agree. When milk was added the child vomited a sour-smelling liquid and later on refused the Nestle's food. As there was constant anorexia, the child was next fed with Ridge's food. As this was not very well borne, a trial was made of Allenbury's food. When this disagreed, the child was placed on Eskay's albuminized food. This also was not tolerated and the child was given some strengthening meal. This was not borne any better.

Examination.—On November 24, the child weighed about nine pounds. It had lost eight ounces the week previous to its parents consulting me. This loss of weight disturbed the family and caused them to seek a change of diet. The examination of the child showed some very interesting facts. First, the general appearance of the child was one of an undersized, undeveloped, markedly rachitic baby; there were beaded ribs; the ends of the long bones, particularly the radius, ulna and femur were markedly rachitic. Subluxation of the knee-joints was present. The head of the child was very rachitic; the fontanelle was very widely open; in fact, the fontanelle was three times the size of that of a normal baby. The extremities were extremely cold; the circulation was very poor; the action of the heart was very feeble; a blowing murmur was distinctly heard at the apex and could also be heard in the vessels of the neck. It was a distinct hemic murmur and attributed to the profound anemic condition which existed.

The trained nurse in charge of the case had been with the baby since birth and had stated that the child had had a series of spasms which were not only regular, clonic and tonic contractions, but they occurred once every twenty-four hours at a certain time of the day. The child was very fretful, very nervous, constantly irritable and had had very restless spells at night which disturbed its sleep. There was a slight eruption around the anus; the child had difficulty in taking the nipples as well as nursing at the breast.

An examination of the throat showed congenital adenoid vegetations. This latter condition interfered with the child's proper feeding; it prevented the child from properly taking its food and breathing at the same time. It would take the nipple or the breast and then let go, in order to breathe. Spoon feeding was resorted to when the child would not take food from its bottle. Attention was directed to the rhino-pharynx. By gradual cauterization the child's condition was so markedly improved that its general condition, with the appetite, stools, sleep and weight, all assumed normal tendencies.

Dietetic Treatment.—The child was given the following:

℞. Whey .....2 ounces
Milk .....2½ "
Peptogenic powder...Half a measure of the metal cap.
Granulated sugar .....Half a teaspoon.

Mix the above and peptonize the milk by a slow process for about ten minutes and when cooled to the proper feeding temperature feed the above quantity every three hours.

The child took the bottle very well; in fact, took four ounces, retained the food and seemed to like it. The following are the nurse's reports:

"November 24, 10:30 p. m., took four ounces, has not vomited, seems to like food."

"November 25, 4 a. m., took four and one-half ounces of food, retained. At 7 a. m. took nearly four ounces, retained. At 11 a. m. child crying and abdomen distended, child appears colicky."

A warm enema consisting of two pints of camomile tea was ordered so that the colon and rectum were thoroughly flushed. The child was instantly relieved after some cheesy curds and mucus, plus feces, were washed away. These fermentative conditions, resulting in gaseous eructations, colicky, distended, tense abdomen, with crying and occasional cheesy, curdy stools, the temperature frequently reaching 101 to 103 in the rectum, occasional vomiting and disturbed appetite were invariably noticed when milk, peptonized or predigested or in any form, was given to this child.

It was therefore apparent to me that this baby would not digest milk and hence some other form of feeding was required. On December 17 a new form of feeding was commenced which is known as a modified form of malt soup. A similar plan of feeding is used extensively abroad, at the foundling asylums which I visited; notably at the New Berlin Foundling Asylum, which is under the supervision of Dr. Finkelstein. This food is known as Keller's malt soup. Its preparation is rather difficult unless performed by a competent chemist. This food has been used for many years in the nursling pavilion of the Kaiser and Kaiserin Friedrich Children's Hospital, under the direction of Professor Baginsky.

I am indebted to the New York Walker Gordon Laboratory for great care in the preparation of this food, which has certainly served me very well. The following formula was used in the beginning and was changed, as can be seen by studying the accompanying table.

KELLER'S MALT SOUP.

Take of wheat flour 2 ounces and add to it 11 ounces of milk. Soak the flour thoroughly and rub it through a sieve or strainer.

Put into a second dish 20 ounces of water, to which add 3 ounces of malt extract; dissolve the above at a temperature of about 120 F. and then add 2½ drams of 11 per cent. potassium carbonate solution.

Finally, mix all of the above ingredients and boil. This gives a food containing: albuminoids, 2.0 per cent.; fat, 1.2 per cent.;

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

carbohydrates, 12.1 per cent. There are in this mixture 0.9 per cent. of vegetable proteids.

The wheat flour is necessary, as otherwise the malt soup would have a diarrheal tendency. The alkali is added to neutralize the large amount of acid generated in sick children. Biedert emphasizes the importance of giving fat, rather than reducing its quantity, in poorly-nourished children, and cites the assimilability of his cream mixture or of breast-milk in under-fed children as proof of his assertions. The author has used this malt soup most successfully in the treatment of athrepsia (marasmus) cases in which the children were simply starved.

On studying the ingredients one can easily see that the malt extract and the dextrinized wheat are highly nutritious agents. We know that dextrinized wheat is very well absorbed by some of the youngest infants. The addition of the potassium bi-

FOOD ORDERED AT WALKER-GORDON LABORATORY.

Delivered daily as ordered below for Case 1.

Date.	No. of Tubes.	Oz.	Dex. Wheat. Oz.	Milk. Oz.	Water. Oz.	Malt Ext. Oz.	11 % Pot. Bicarb. Sol. Dram.
Dec. 17, 1901.	4	3	1	5½	10	1½	1¼
	4	3	Same (but without wheat).				
Dec. 20, 1901.	8	3	Same (but with dextrinized wheat).				
Dec. 24, 1901.	8	3½	Same.				
Jan. 4, 1902.	8	4	Same.				
Jan. 9, 1902.	5	4	Same.				
Jan. 12, 1902.	8	4	Same.				
Jan. 21, 1902.	4	4	Same.				
	4	4	Same (but ½ oz. more milk to each tube).				
Feb. 7, 1902.	8	4	2	15	16	3	2½
Feb. 18, 1902.	4	4½	1	9½	8	1½	1¼
	4	5	1	11½	8	1½	1¼
Feb. 22, 1902.	4	4½	1	9½	8	1½	1¼
	4	4¾	1	10½	8	1½	1¼
Mar. 1, 1902	4	4½	1	2	15½	1½	1¼
	4	4½	1	0	17½	1½	1¼
Mar. 3, 1902.	4	4½	1	3	14½	1½	1¼
	4	5	1	4	14½	1½	1¼
Mar. 6, 1902.	4	5	1	3	14½	1½	1¼
	4	5	1	4	14½	1½	1¼
Mar. 10, 1902.	8	6	2½	20	26	3¾	3¼
Mar. 17, 1902.	4	6	1¾	10	13	2	1¾
	4	6	1¾	8	15	2	1¾
April 1, 1902.	8	6	2½	24	22	4	3½
April 13, 1902.	*6	4	. . .	. . .	. . .	. . .	. . .
April 16, 1902.	8	4½	2¾	14	21	3½	2¼
April 18, 1902.	8	4½	3	16	21	3½	2¼
April 22, 1902.	8	5	3	16	21	3½	2¼
April 26, 1902.	8	6	3	16	21	3½	2¼
May 2, 1902.	8	6	3¾	24	†26¼	4½	2¾
May 21, 1902.	4	6	1¼	12	‡12	1¾	2
	§4	6	. . .	. . .	. . .	. . .	. . .
May 23, 1902.	8	6	2½	24	24	3½	4

*Each tube of 4 oz. dist. water and 3 dr. Nestlé's food.
†Barley water. ‡Distilled water.
§1½ oz. Nestlé's, ½ oz. malt extract and 24 distilled water.

Case 2.

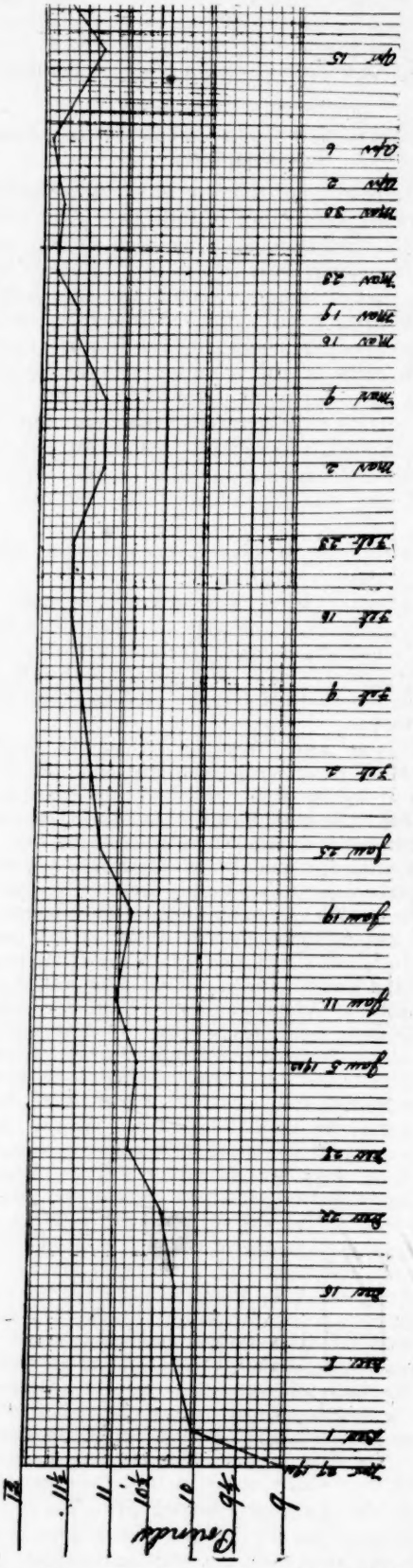
Date. 1902	No.	Oz.	Dex. Wheat. Oz.	Wh. Milk. Oz.	Dist. Water. Oz.	Barley Jelly. Oz.	Malt Extra't Oz.	11 Per Cent. Pot. Bicarb. Sol. Dram
May 28.	7	6	1¼	14	28	. .	3	3½
May 29.	7	6	1½	24½	17½	. .	2	3½
May 30.	7	7½	1½	35	14	3½	2	3½
May 31.	10	7½	2¼	52	21	5¼	3	5¼
June 2.	7	7½	1½	35	14	3½	2	3½
June 5.	7	7½	1½	35	14	4	. .	3½

carbonate served to render the food markedly alkaline, which is an extremely important thing. When milk was added with the object of increasing the percentage of fat and proteid, we deviated from the quantity as originally recommended by Keller. Colic and gastro-enteric fermentation was invariably encountered. A study of the weight chart is extremely interesting.

CASE 2.—The child, S. N., born of healthy parents was put to the breast on the second day after birth. On the third day after birth there was a profuse flow of milk. The infant appeared quite well satisfied after nursing.

The child was nursed every two hours; was changed from the right to the left breast at every other feeding. Fifteen to twenty minutes after each nursing there were symptoms of restlessness and constant crying. The legs were flexed on the abdomen; there were eructations and all the evidences of colic. The child cried at least one hour, until it fell asleep from exhaustion. This state of affairs continued each day for at least two weeks. A specimen of breast milk was examined by a chemist and found to be perfectly normal in its elements and in their relative percentages.

The family was greatly distressed at its continued crying and apparently colicky condition, but was surprised, in spite



WEIGHT CHART OF M. L.—CASE 1.

Two lower incisors appeared at about seven months, showing excellent progress.

of this condition, to find that the infant gained between four and six ounces. It was necessary to give one- to two-grain doses of chloral hydrate at night to procure sleep. We finally decided to change the mother's milk and to substitute a wet

nurse. The child behaved just as badly with the wet nurse, had the same crying spells shortly after nursing, which continued frequently for one hour. When the breast was discontinued for one day and barley water or albumin water substituted, the child would appear comfortable, and not have the pains which we noted while feeding breast milk.

An interesting point is the fact that all infants having the milk idiosyncrasy had elevated temperatures ranging from 101 to 102 continuously.

The stool was filled with large cheesy, curdy masses. To aid the assimilation of the milk, small doses of pancreatin and bicarbonate of soda were given; with the idea of partially peptonizing the milk; essence of caroid, a half teaspoonful before each feeding, was also prescribed. In addition thereto small quantities of essence of pepsin and hydrochloric acid were given after each feeding, to aid the digestion of this food. Neither of these medications relieved the condition and I finally decided that breast milk was not adapted for this child. We next resorted to very diluted cow's milk, using one part milk with three parts oatmeal water. We gradually increased the strength until one-half milk and one-half oatmeal water was given.

Milk, however, in any form, whether diluted or pure, was poorly borne. When cereal decoctions were substituted, they were invariably better tolerated. The same was true when soups and broths were given. The latter were always well borne, and the moment milk was added, no matter in what form, trouble was immediately encountered.

CASE 3.—Another baby, an equally instructive case, was brought to my office by Dr. Hecht of West Hoboken, N. J. It could not assimilate milk in any form. This child not only had dyspeptic and colicky symptoms, with flatulence and cheesy stools, but also evidences of fermentation in the bowel and invariably had acute febrile attacks with temperature ranging from 101 to 103 F. whenever milk was fed. This gastric disturbance was only apparent after milk feeding. The child behaved well when substitute feeding other than milk was given.

Almond milk was one of a series of foods given which was not only well borne but was well adapted for nourishing when milk was not tolerated.

It was found wise, if four ounces of milk had been previously given, to then substitute four ounces of barley water or oatmeal water, and to feed four ounces at regular intervals of three or four hours each.

Almond milk can be given in the same quantity and at the same interval as breast milk. It must be sweetened by adding one teaspoonful of sugar to each four ounces of food. Delicate infants require two ounces—repeated every two or three hours. If this quantity is well borne by the stomach, then one ounce more can be added every two days. Almond milk contains vegetable proteids and is exceedingly valuable as a milk diluent. It serves well instead of barley, rice or oatmeal water if it is sweetened with cane sugar.

65 East 90th Street.

THE IMPROVEMENT OF BREAST-MILK AND THE PROLONGATION OF LACTATION.*

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Of the various functions of the human body, none has been so neglected as that of lactation. It is true that human breast-milk has been repeatedly analyzed and its component parts estimated with somewhat varying results, but the ever-prominent purpose of these investigations, from the time of Meigs, has been to establish a standard upon which imitations might be based, while but comparatively little thought has been given to measures which should serve to correct a deteriorated secretion.

Nursing to the minds of the laity is a very simple matter, consisting only in putting the child to the breast at any regular or irregular intervals, which may seem best to them, the chief indication therefor being the crying of the child. If, however, the breast-milk begins to fail or appear to disagree with the child, the common thought in the minds of both friends and physicians has for years been to find at the earliest moment some fairly satisfactory method of substitute feeding.

ELABORATE CHEMICAL ANALYSIS UNNECESSARY.

Only recently a writer on pediatrics has emphasized this by claiming that if the breast-milk does not seem to be suitable a careful chemical analysis should be made; but if this proves the milk to be abnormal what does he suggest? To restore the breast-milk by appropriate means? Not at all—not a word of this, but to give the child bottles. If that is the sole purpose of a chemical analysis of breast-milk why go to that expense at all? Why not give the bottle at once?

Chemical analyses of breast-milk are certainly of great assistance at times if proximity to a competent chemist and the means of the client allow—but undoubtedly this insistance upon analyses as all-important has obscured the main issue, and acted as a deterrent upon many a busy practitioner who is too distant from the laboratories or whose patients can ill afford such examinations.

There are, to be sure, simpler ways of arriving at an approximate estimate of the quality of breast-milk. Holt has given us a very useful and inexpensive apparatus. The centrifuge now in common use for urinary analysis is at present fitted with miniature tubes resembling those of the larger Babcock machine for accurately estimating the percentage of fat. If neither of these is available even a little experimentation with a few samples of breast-milk set aside for 24 hours in a narrow-corked test-tube will train the eye to detect an excessive or deficient cream layer. The specific gravity can be taken with any small urinometer. A few rules only need be learned. The normal specific gravity is 1031. High fat lowers the specific gravity. Low fat raises the specific gravity. Therefore a high specific gravity with high fat indicates excessive proteids.

THE CAUSES OF POOR BREAST-MILK.

So much for what we can do if we desire the satisfaction of an analytical demonstration. Practically, however, these tests are only necessary in exceptional cases. In the vast majority of instances the milk of a healthy mother, who takes sufficient out-door exercise, and eats sensible plain food supplemented with abundant nutritious fluids, will scarcely ever fail to agree with her child. This is the whole matter in a nutshell: If the breast-milk is scanty or appears to disagree with the child, either the mother is out of health, anemic or constipated, she is securing too little fresh air and exercise, she is taking too little fluid food of the right kind, or she is not upon a plain sensible diet. No elaborate analyses are necessary to determine these matters. A few direct questions will put the busiest practitioner in possession of the facts, and a little common-sense advice to the mother, with enough insistence to ensure its being strictly followed, will be productive of the happiest results.

The principle enunciated above is so extremely simple that the almost universal failure to appreciate and apply

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it is the more surprising. The intelligent dairy-man takes every possible care that his cows are healthy, well-fed, well-watered, and well-cared for in order that they may give a proper quantity of milk of good quality. To aid him experimental stations all over the country are working out these problems to the third and fourth decimal, but from time immemorial the nursing mother has been left to work out her own salvation. Yet the principles governing successful lactation in these two mammals are sufficiently similar to form a very close analogy, and such differences as do exist arise chiefly from the kinds of food suitable on the one hand for an herbivorous and on the other for an omnivorous species, the latter being in this case of a highly organized type. Without carrying this comparison further, except as it will be apparent to the thinking mind in what follows, let us proceed at once to consider how a normal supply of maternal breast-milk may be best produced and maintained.

THE DIET IN LACTATION.

Aside from the attention which the nipples may require during pregnancy the supervision of lactation should begin almost immediately after child-birth in the administration of abundant fluid nourishment, which should be continued as long as the mother nurses her child, for as the quantity of the milk increases the greater the need of supplying fluids freely. Semi-solid food is now given on the second day after parturition and plain nourishing food in an uncomplicated case on the third day. By this time the abundance of fluid food has had an opportunity to restore the depletion of the tissues and to thoroughly flush the system of the waste products, diluting the usual dark concentrated urine of this period, and the mother is in a better condition to secrete a milk free from noxious principles.

Experience has demonstrated that it is not enough to order such fluid food, but that the necessity for its being taken freely should be made clear to both nurse and mother in order to secure their intelligent coöperation. Thirst is no reliable guide to the quantities required.

THE FLUIDS TO BE USED.

The four fluids upon which the mother should depend throughout lactation to the practical exclusion of all others are, in the order of their importance, as follows:

1. *Milk.*—Of this she should drink a quart or more in the twenty-four hours. No argument seems necessary to show that this furnishes in the simplest form the materials needed for milk secretion.

2. *Thin corn-meal gruel.*—This is best made of yellow meal and requires long and thorough cooking and judicious salting to make it most acceptable. It may be prepared with or without milk, but always of such a consistency that it may be drunk from a bowl twice or three times a day. Unless carefully specified the tendency is to make a mush and to eat it with a spoon or to drink small quantities from a cup, both of which defeat our purpose and lessen the quantity of fluid ingested. The use of corn-meal is somewhat empirical, suggested by its use in the feeding of milch cattle, but its value in restoring and maintaining a deficient milk has been proven beyond conjecture. It is infinitely superior to oat-meal gruel as a milk maker.

3. *Water.*—This should be taken freely throughout the day, keeping in mind the fact that the nursing mother requires on the average at least three quarts of fluid in twenty-four hours for the proper carrying on of the excretory and secretory functions.

4. *Cocoa.*—If made by prolonged boiling of the cracked cocoa nut, cocoa is a helpful stimulant to secretion, but also as a warm beverage it should displace tea and coffee. Tea, especially, should be prohibited, for it is not only valueless, but is in many ways distinctly inimicable to proper lactation. Many of my most favorable results in difficult cases have been obtained by stopping tea and substituting milk, corn-gruel and cocoa in liberal quantities.

The remainder of the diet should consist of such plain nutritious food in fair variety as the mother knows by experience to agree with her digestion.

Beer has but little nutritive value and often disturbs the infant. Malt extracts, which are blindly relied upon by the laity, I use but rarely except where analysis has shown the milk to be very deficient in fat. With the fluid diet recommended above they are usually unnecessary and there is always a tendency to expect the malt extracts to do all, and so to neglect the really important things which furnish the necessary raw materials for manufacture by the mammary glands.

CONSTIPATION AND ANEMIA.

While it is often better by the avoidance of direct medication to demonstrate conclusively to the mother that her breast secretion is directly dependent upon her diet, two matters frequently require our attention—constipation and anemia. Anemia is not in itself favorable to the proper performance of any bodily functions including that of digestion. It exists, as a rule, after child-birth and is with about the same frequency neglected. This must be corrected before we can expect the mother to do her best for her child. Blaud's pill is an excellent form of iron, either alone or guarded by cascara, which is the most suitable laxative for nursing women.

Sleep, exercise and fresh air are each of great importance. The former may be provided for by the reduction of the night nursings to a minimum, and with nervous women by removing the child to another room under the care of the nurse.

EXERCISE FOR THE NURSING MOTHER.

If, with regular hours of nursing, the infant vomits, shows evidence of colic, and has disturbed stools, the natural deduction is that the proteids of the breast-milk are too high. To remedy this nothing is so surely effective as walking daily, gradually increasing distances, in the open air. This enables the mother to oxidize and burn up her nitrogenous food more completely and reduces the secretion of proteid material. Such exercise should always fall short of actual fatigue and where this is caused by even short walks, daily driving out of doors has proven a successful substitute. Custom among women of means, the care of the child among the poor, and maternal devotion and solicitude in both classes tend to keep the mother at home during the early infancy of their children unless the necessity for out-door exercise is insisted upon. A fair amount of such daily exercise is, however, in all cases a part of the mother's duty to her child, for without it she can not maintain the best of health.

THE BASIS OF THE AUTHOR'S CONCLUSIONS.

The experience on which I base my views has been derived from close attention to this subject and constant application of these principles for the past three years in private, out-patient and hospital practice, in all of which frequent accurate weighings of the infants have been made so that the results have not been conjectural, but demonstrated by the evidence of the scales, as well

as by the normal stools and evident well-being of the infants.

Numerous cases could be cited here, were my time not limited, exemplifying the successful application of these principles, as where an infant after its initial loss in weight after birth made no gain in weight for ten days, but promptly began to do so normally as soon as the extra fluid nourishment was given the mother; or frequent instances where the milk began to fail, as shown by the flabby condition of the breasts and weighings of the infant made before and after nursing, but was restored by the same means.

SUCCESS FROM PATIENT PERSEVERANCE.

I am convinced that in the majority of those far too common cases where the breast-milk gives out in the first few weeks this could be prevented by properly feeding and caring for the mothers, the more so because such failures as I have observed have been in those cases where there was some insuperable obstacle to the carrying out of these measures in their entirety.

Where it is necessary to build up the mothers' health by iron and exercise the failure of the child to make immediate gains should not discourage us, provided the weight is only stationary and the child not really suffering. At such times the natural anxiety of the mother, which only serves to increase the difficulty, should be combated by confident assurances of ultimate success. If, however, the child continues to lose weight seriously, judicious supplementary feedings should be employed, and these may often be discontinued later. An important point in this connection, and one often overlooked, is that when supplementary bottle feedings are given because of scanty milk, the mother should give both breasts at each nursing, that the quantity obtained may be greater and also more especially that the needed stimulation of the breasts by the child shall not be diminished in frequency. To this we shall have occasion to recur later.

Up to this point we have spoken chiefly of the period of the few weeks following the birth of the child, and this is indeed the most important, for it is the new-born infant which suffers most from being deprived of its natural food. Every pound which it gains normally at the breast increases its chance of life and its ability to meet digestive problems which may arise later.

The next most frequent period at which babies are presented for treatment for supposed difficulties arising from the breast-milk is during the third or fourth months. Here it is, perhaps, less likely to be a question of high proteids and indigestibility of the milk, but rather a scanty supply or bad nursing habits, which are the sources of the disturbance, and may even have raised the question of weaning and a change to artificial food. Here the weight of the child gives us valuable information, for if that corresponds fairly to the age, showing that the child has been growing since its birth, we may feel quite sanguine of overcoming the difficulties with the coöperation of the mother, for irregular or too frequent nursing, or lack of a proper maternal diet will usually prove to be the cause. Even if the baby vomits and has poor stools and is said to have colic the institution of a rigid schedule of nursing hours for the baby and attention to the diet and hygiene of the mother will generally remove the difficulty.

If the child is continuously gaining weight, habitual spitting up after nursing need cause no alarm, and indeed may be entirely disregarded if the stools are good, but even poor stools with steady gain in weight usually straighten out if the mother will follow directions. Infants are very commonly dosed by physicians and further upset when in reality all that is necessary is to instruct and treat the mother.

SUPPLEMENTARY ARTIFICIAL FEEDING.

If the child's weight is stationary we are still safe in waiting for the effects of the mother's new régime, but if the child is losing weight or its condition has been poor for some time it then becomes a question of building up the inadequate breast-milk and thus prolonging lactation, and we must make up the deficiency of nourishment required for growth by additional food from the bottle. Experience has shown that this may be given in two ways; either by giving a small quantity of suitably modified cow's milk after each scanty nursing, or else by making two or more of the feedings exclusively from the bottle while the others are supplied from the breast. Both of these plans we pursue with success in the Nursery and Child's Hospital, but the latter is probably the safest, for where a bottle feeding at one nursing hour is followed by the breast at the next indigestion is less liable to occur. If three or more bottles have to be given, both breasts should be offered each time the child is nursed else the milk may rapidly leave the breasts.

Not only are many children artificially fed because the breast-milk has failed, when this might have been prevented or restored, but also too many children are taken from the breast because the mother's milk falls just short of being sufficient. Such children may evidence by their actions at the breast that they are not satisfied, they may fail to gain satisfactorily, or they may show some disturbance of their stools. Yet it is the height of folly to abandon anything so valuable as breast-milk for the sole reason that there is not enough of it. Instead of seeking, under such circumstances, to find some other nourishment for all the feedings, as is so frequently done, is it not ordinary common sense to supply the deficiency by an occasional bottle and so hold on as long as possible to that which we know to be of incalculable benefit to the child? There is no question but that the latter plan has the advantage of simplicity and that it is fraught with much less danger than the rapid or immediate substitution of an exclusively artificial diet. It gives opportunity for the cautious adaptation and gradual increase in strength of the one, two or more supplementary bottles of modified cow's milk which the child may need. Let us get rid at once of the old groundless view that because milk is scanty it is bad. Half rations are not bad for a ship's crew—they are only inadequate.

EVEN A LITTLE BREAST-MILK IS VALUABLE.

On the contrary, human breast-milk is very thoroughly utilized by the infant and furnishes substances for its proper development which are not contained in other foods or even in cow's milk. Infants will often thrive and gain in weight for considerable periods upon a quantity of breast-milk much smaller than the quantity of modified cow's milk which would be necessary to accomplish the same result. It is surprising with what frequency one bottle each morning and afternoon turns the scale for a normal gain in weight when the breast-milk has proven insufficient. Of course, the mother's diet and health require the same careful attention which has been recommended, and with such care my records show numerous cases where she has later been able to resume exclusive nursing. However, that is not necessary to the fulfillment of our purpose, which is to prolong even a partial lactation as far as possible

through the first year of life. Babies so fed, in part at least, from the breast are more normal and have less illness than those which are exclusively bottle-fed.

At the risk of repeating what I have said more fully upon this subject elsewhere, I maintain that the parent or the physician who takes a child from the breast and puts it entirely upon other food, without having exhausted every available means to maintain the breast-milk so that the child may at least receive it in part, assumes a grave responsibility and is giving a hostage to the grim destroyer, for the chances of fatal illness and death are statistically proven to be greater among those children who receive the bottle alone. Even moderate malnutrition, anemia, mild rachitis and slight chronic digestive disturbances, dependent on such artificial diet are often the determining causes of a fatal issue from some malady which a breast-fed infant would have survived.

47 West Fifty-sixth Street.

INFANT FEEDING.

SOME OF THE DIFFICULTIES GROWING OUT OF THE NECESSITY FOR RESORTING TO ARTIFICIAL FEEDING.*

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This theme is rendered progressively more interesting and important by the increasing frequency with which resort is had to artificial feeding, not to mention the continuously high infant mortality rate, which is itself a perennial plea for better means and methods for the artificial feeding of infants. It is a stirring fact that one-tenth of all infants do not live a month, and that one-third do not reach the age of three months.

In this connection it is not too previous to cite also the growing popularity of the one or two child family, and the inevitable vexing national question, as it now attains among the French. According to the well-known law of supply and demand the valuation of infants should be advancing as this desire for better results in feeding grows apace.

BREAST MILK IS THE BEST.

Rotch has well stated that the superiority of breast feeding, being now so generally acknowledged, may be regarded as a scientific truth; and that, on the other hand, opinions regarding artificial feeding are so diverse and opposed, one to another, that much must evidently be unlearned before any intelligent advance can be made. This diversity of opinions and conclusions is owing to a failure to recognize or duly consider certain perennial and universal difficulties in preparing artificial food, in selecting such a food, or in the result of such feeding

It is these difficulties or constant factors in the great problem of artificial feeding that the writer wishes to bring to your attention, in the hope that the discussion this paper may provoke will result to advantage. We must bear in mind that much as the modern chemist has already accomplished, he has yet to give us a synthetic human milk. The problem is supremely complex and will probably never yield to an entirely satisfactory chemical solution. The best he can find to imitate is an average of analyses. Such is not nature. The best observations show that mother's milk is never exactly the same in different breasts, nor even in the same breasts at different times during the course of the same day, and even as any single nursing progresses the milk changes. Change, and presumably the most irregular variations, appears to be the great law underlying the supply of mother's milk. This is nature, and manifestly what the infant requires. The first emptyings of the breast after labor, with their colostrum and excess of water, prove precisely what is needed to prepare the infant's alimentary canal for the more substantial nursings to follow. As to the quantity of milk taken at each nursing, the infant's own powers and comfort are left to determine. Normally an infant satisfies itself. If the yield is inadequate, as shown by the vigor of the infant in plying the empty breast, such plying tends in turn to increase the normal supply. In this manner nature effectively arbitrates the question of supply and demand. Presumably the variation in the nutrient value of the supply as normal lactation progresses is intimately concerned in the maintenance of a vigorous and healthy demand on the part of the infant. This is nature, and anything short of an imitation of this is not an imitation of nature.

DIFFICULT TO ADAPT ARTIFICIAL FOOD.

The difficulty next in importance to the above is that encountered in the effort to make cow's milk anything but cow's milk. Naturally enough when breast nursing is not possible, or must be abandoned in part, we turn to cow's milk as the best available infant food. We should not lose sight of the fact that cow casein is not human casein, and that it can not be made such by any known method of modification. The newest plan, that of Von Dungern, which consists in treating the cow's milk with a small quantity of rennin and thoroughly breaking up the curd by brisk agitation before giving it to the child, appears, when first considered, a step in the right direction. It is, however, not practical for general use, and will probably never be employed to any extent. At best the plan simply offers a previously curded cow's milk to a stomach which is already well equipped with active milk-curdling ferments.

Much of the so-called modification of milk fails because it is not an adaptation of the milk to the needs and digestive powers of the infant. It simply changes the relative proportion of the chief constituents without rendering them more easily digested. Cow casein is coarse and difficult to digest; no matter how the milk has been previously modified.

PERNICIOUS PRAISE OF ARTIFICIAL FOOD.

In this conection it may prove of interest to consider in contrast two statements recently made, one by the venerable Dr. Jacobi and the other by a leading American drug concern. The former is this: "In my opinion only one great progress has been made in infant feeding these dozen years. It is the more or less universal custom of heating cow's milk and all other substances employed in infant feeding." In view of the volumes of literature upon this subject, produced during this period, the statement is startling, but considering the source, nobody questions its truth. Manifestly insuperable difficulties obstruct the way of progress.

The second statement above referred to is introductory to a description of one of the newer artificial foods and rings with a clear note of triumph as follows: "In the attempt to prepare by artificial means a substitute for mother's milk, the result of late years has been gratifying. Mother's milk is the best infant food in the abstract, but so variable in quality. Artificial foods are, if anything, more valuable because more con-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

stant in quality, and composed moreover of a larger number and variety of nutritious materials."

The writer feels no apprehension of challenge in the assertion that such pseudo-scientific statements are largely responsible for the growing belief, especially among the laity, that artificial feeding is just as safe as breast nursing, and that they are most pernicious in their results.

The qualities on which superiority of artificial foods over mother's milk is based, are no doubt present in the former, but the statement applies to pea soup as well, and the latter is wholly without modern advocates.

THE THRIVING INFANT VERSUS THE WEAKLING.

It is easy to feed some infants. "Thrive" seems to be written upon their every fiber, and in spite of the grossest kind of neglect and most destitute environments, they live and do fairly well.

Another group will thrive only as the result of the most rigid attention to the minutest details in their surroundings and dietary. They are drawn through the sloughs of infancy only as with a cork-screw or a tow-line.

The remainder will vacillate between bad and worse in spite of all that skill can do for them. If not claimed by death in the early months of life, they drag along in their low degree of vitality only to be picked up by some intercurrent accidental acute malady.

The infant we deal with in our general instructions regarding artificial feeding is the average baby, but, like average mother's milk, this article is purely imaginary. Out of this grows what is probably the greatest difficulty in the selection of an artificial food. Each infant is a law unto itself just as soon as it is separated from its mother. Recognizing this we wisely take into consideration its age, weight and constitution in the selection and making of its food.

Apart from these considerations, it too frequently happens that one food rapidly replaces another without definite aim, but always with more or less disastrous results to the infant.

MALNUTRITION FROM ARTIFICIAL FEEDING.

This brings us to the last group of difficulties to be considered, namely, those growing out of artificial feeding. It is universally admitted that such diseases as gastro-enteritis, scurvy, rickets, etc., are peculiar to artificially-fed infants and children; but these are merely extreme manifestations of mal-nutrition. One need not observe very closely a general infant mortality table to see that the percentage of deaths is larger among the artificially-fed, than among the breast-nursed. The former are always inferior physically to the latter. They may appear in robust health, and to the casual observer stronger than the average breast-nursed child of the same age, but they succumb first to the acute maladies of childhood. This fact is practically unknown among the common people, and it is to be feared, does not receive proper consideration by physicians. An infant ruthlessly deprived of mother's milk succumbs to an attack of measles or whooping cough in childhood. Blame is never placed upon the mode of early feeding, when in point of fact, if the child had obtained the inestimable benefits of normal breast nursing, it would, in all probability, have survived the above-named attack. It is the writer's practice to insist upon breast nursing whenever this is possible, or can be made possible, by attention to the mother's health. If exclusive breast nursing is not to be considered, partial breast nursing is considered in turn. Both of these plans failing, an effort is made to ascertain the specific needs of each infant in modified choice cow's milk. The modification is effected according to the strength of the child and its parental advantages, with sterilized water, gruel or the like, with or without admixture of one of the prepared foods according to the needs of the case at hand.

582 Federal Street.

DISCUSSION.

ON PAPERS OF DRS. SHUTT, FISCHER, SOUTHWORTH AND M'ALISTER.

DR. C. F. WAHREE, Fort Madison, Iowa—I have been unusually impressed by this last paper because it shows that the pendulum, which has gone to one extreme, is now swinging back. It is very hard to supplant anything that Nature has provided for us by artificial means and methods. Let me say a few words about this swing of the pendulum. In the first place, cow's milk, as it was called in the large cities, was anything in the world but cow's milk there. Again, the investigating spirit and enterprise of the city physician endeavored to remedy this. Aided by enterprising manufacturers they brought forth into the world one million and odd baby foods. In medical meetings that I attend, these baby foods have not apparently received proper recognition, notwithstanding the fact that the physicians in attendance take home with them numerous samples of such foods. The effort to improve infant feeding I certainly appreciate, but the result has not been a success. In the country districts the mother of thirteen children will tell you to feed the child on pure cow's milk. Another mother will tell you that, according to her experience, nothing should be used but pure cream. I saw a boy that had been fed in this way; he was six feet, two inches high and weighed several hundred pounds. After all these investigations we have found out that the best substitute for the mother's milk, when this can not be obtained or is bad, is a good cow's milk, either given just as it comes from the cow, or sterilized. The milk may be slightly modified by the addition of water and sugar. This seems to be about the best thing yet found. Why is this? The Department of Animal Industry has been studying tuberculosis, and it tells us of the dilemma that has just arisen from Koch's recent assertion. I therefore make a plea for good common sense and the exercise of the best judgment in feeding the individual baby. I have seen some children thrive on some particular brand of infant food. Many of these foods depend upon the added milk for their chief nutritive value. A white of egg beaten up in water is altogether too simple, so we must use some food with a fancy name.

DR. CHARLES G. KERLEY, New York—It seems to me that it is not quite right that we should put our experiences in such a bad light before the profession regarding artificial feeding, for, if we go before the world and confess that we have no success we are confessing to more than the facts justify. I do not take such a pessimistic view of infant feeding, even as Dr. Southworth. The great majority of the babies can be fed on cow's milk, properly modified and adapted. The point of chief importance is that infants can not be put on a certain modified milk and be kept upon this until grown up; it must be changed from time to time. These children are often started off on too high percentages. Often, fat 3, proteid 1, and sugar 7, will be used as the initial formula, and it is not surprising that the infant does badly. Then come the various changes of feeding that have been spoken of. We should begin early with low percentages of cow's milk. It makes very little difference whether the milk is modified at home or at a laboratory. Hundreds of children in New York City are fed successfully on cow's milk properly prepared, properly diluted and, above all, properly watched. All of my cases, in which weighed twice a week. The stools must be seen frequently. there is difficulty in feeding, the patients are examined and Only in this way can you succeed in the feeding of infants. I do not mean to say that all children can be successfully fed on cow's milk, but the cases that can not be so fed are com-

paratively few, and they are almost always those which have been badly fed at the outset.

As to the milk idiosyncrasies referred to by Dr. Fischer, I would say that the author seemed to think this was an original term. About one year ago I wrote a paper on "Infant Feeding,"[1] in which I used this term and reported two illustrative cases. I do not mean to say that the term was original with me, but I wish to say that the idea is not new, though it is one which should be borne in mind. I recall one case in which the child could not take a particle of cow's milk until one year old. That child had to be fed by a wet-nurse. Some years ago, when I was resident physician in an institution in which there were many children and nursing mothers, I had the children weighed every second day, and then undertook to improve the breast milk in those that failed to gain. The milk was analyzed and the mothers were put on cod liver oil, malt extracts, nutrolactis, etc. It seemed that the malt preparations came out the best in this trial. I object very much to giving a partial feeding on the breast, and then giving the bottle; it has not worked well in my experience, and I think it is far better to substitute artificial food for one or more of the nursings.

I object to the title, "Acute Gastro-Enteritis," in Dr. Shutt's paper, because it does not begin to cover the ground embodied in that paper. The title refers only to the later stages of these cases. At the beginning there is poisoning—an infection—and when the inflammation develops it is due to the action of the bacteria. It is in the beginning of these cases that the best therapeutic work is done, and in this stage there is nothing more than an infected gut and a poisoned child. The treatment outlined in this paper seems to me most excellent. I reported recently 679 cases of summer diarrhea treated in the out-patient department of the Babies' Hospital with a very low mortality. The treatment consisted in stopping all milk for a time and giving bismuth subnitrate in large doses and flushing out the bowel. If the importance of these absolute requirements for the successful treatment of summer diarrhea was more fully appreciated by the profession at large it would be a decided step in advance. Egg-water as a milk substitute has not served me well. I do not like the liquid peptonoids in too large amount because of the contained alcohol. I prefer as a substitute food either barley or rice water, to which a small quantity—an ounce or two—of plain broth may be added to change the taste.

DR. JOHN LOVETT MORSE, Boston—I was unfortunate in not hearing the first paper. I feel, with Dr. Fischer and Dr. Kerley, that there is such a thing as milk idiosyncrasy, but I also feel convinced that it is an extremely rare thing, and that most of the so-called examples of this condition are due to improper modification of the milk, either in the present or in the past. I should like to ask what Dr. Fischer's object was in putting so much milk with the whey. The milk increases the proportion of caseinogen and thus defeats the object of the whey, which is to increase the relative proportion of lactalbumin. I should also like to know why the malt soup agrees, i. e., the theoretical explanation. My own belief is that if a baby can not take a properly modified cow's milk it should be given breast milk.

I agree most heartily with almost everything said by Dr. Southworth, though I think the examination of the breast milk is of more importance than he indicates. It often gives most valuable information. I heartily agree with him that it is perfectly possible to modify the percentages of breast milk very materially, and that is one of the reasons why I like to have an analysis of the breast milk as a guide for this modification. We should not be surprised by what seem to be very curious percentages in breast milk. We sometimes find the proteids as high as 3 or 4 per cent. Such a milk is, however, not necessarily bad for the baby. It often agrees perfectly well. Hence if the milk of a wet-nurse contains a high percentage of proteids we should not conclude that her milk must be bad, but should try it on the baby. It will very probably agree with the child. I should agree with Dr. Kerley rather than with Dr. Southworth as to the value of malt in increasing the amount of breast milk. I think the breast milk should be continued so long as there is any milk in the breast. I also believe that it is well to give both breast milk and substitute food at the same feeding because we thus get the advantage of the ferments in breast milk, which are not found in the substitute food. It is not uncommon to analyze the breast milk in order to determine what substitute food shall be given. I do not think that this is of much use. If the breast milk contains 2 or 3 per cent. of proteids it does not mean that this percentage of proteids can be taken in a substitute food. The substitute food must be prepared on general principles and not based on the analysis of the breast milk that the baby has been taking. I think all will agree with the notion that the food must be made to fit the individual baby, and that rules are only of value as a starting-point. I agree most heartily with Dr. Kerley that more babies have been upset in the first few weeks of life by too strong milk than by any other cause.

DR. J. P. CROZER GRIFFITH, Philadelphia—I have been studying this subject very carefully for a good many years. The great trouble usually is the beginning with food which is far too strong. We are apt to give a diet with too much fat, and one of the advantages of percentage feeding is that we can know exactly how much fat we are really giving. In the old cream mixtures we often gave too much fat, though the mixture appeared weak at first sight, unless we actually calculated just what the child was getting. As a result, vomiting occurred.

As to the idiosyncrasies to milk, I think very many of what appear such are not really so. It is only the result of persisting in the use of an ill-adapted food until the child's digestive powers have been overtaxed. It is necessary to find the milk mixture best suited to the child and then to hold to this sufficiently long. Here comes in the old motto: "Be sure you are right, and then go ahead." No child whose digestion has been thoroughly disturbed is going to get well quickly. There are bound to be relapses. This does not mean that the diet must be changed. It should not be altered if the physician feels confident that he has begun on the right line. I wish to emphasize this because it is very common for physicians to jump from one mixture to another without allowing sufficient time to determine whether or not the food is really appropriate.

With regard to the alcoholic peptonized foods, I think they are very useful as temporary foods and stimulants, and I use them a good deal instead of whisky. I have seen infants apparently thoroughly intoxicated from partaking freely of such foods.

DR. A. C. COTTON, Chicago—No subject before this Section or in any general medical society meeting will lead to so much discussion as baby feeding. This simply means that the question is of paramount interest, but we are no nearer a settlement than ten years ago. I agree with Dr. Wahrer that, after all, it is "the man behind the bottle," and that he must have brains. The keynote is the treatment of the individual case; the environment and the individual must be carefully considered along with a few fundamental principles. In my opinion the most fundamental of these has been touched upon in the paper of Dr. Southworth, which is the most valuable paper on infant feeding that I have heard for two years. We are all discussing and criticising fragments of the subject of infant feeding. If all the different methods of artificial feeding were wiped out it would clear the way and be, I believe, a boon to humanity. This would drive us to the necessity of making the maternal font adequate to the demands. So long as there is a possibility of the intelligent physician assuring the mother that the baby may possibly survive on an artificial diet, so long will there be an almost insuperable obstacle to the thorough study of the physiology of the mother. We are struggling with pathologic problems that ought not to exist or should exist in a greatly diminished percentage. These pathologic conditions are largely due to errors in diet, and chiefly in artificial diet. Look over the mortality statistics everywhere! In Germany the death certificate must state whether natural or artificial food has been used in all children

1. Medical Record, August 31, 1901.

under one year of age. A similar effort to compile data has been made in France. We all know the great excess of mortality in artificially-fed infants. This has always been so, and even under the most improved methods of feeding it is true to-day. We must, then, turn our attention more persistently to natural feeding. We have not begun to exhaust the possibilities of the human breast yet as a supply of nourishment to the infant. The indifference on the part of the mother and the ready acquiescence of the physician are largely responsible for this. Here is the stumbling block. If every mother were sure that her baby would inevitably perish if it were not fed from the breast, what an increased percentage of cases of successful lactation there would be! I believe the subject of paramount importance to-day is that of disturbed lactation; its causes and effects. I agree with almost all that has been said by Dr. Southworth, yet I believe that analysis of the breast milk is a valuable aid in our efforts to modify mother's milk. I also understood him to say that he would put the mother on a liquid diet continuously, month after month, throughout the year. There never was a time in which the female stomach was in such vigorous condition for digestion of a varied diet of solids as during lactation unless it might have been during gestation. Mother Nature provided for double rations and metabolism is increased 30 or 40 per cent. during lactation and the digestive organs rise to meet the requirements. I see, then, no reason for putting the nursing mother on a liquid diet as a routine measure, though in exceptional cases it might be desirable. I believe Dr. Southworth's paper strikes the keynote of this all-important subject, and I wish we were all driven to feeding infants at the breast. The subject of substitute wet-nursing has not begun to be exploited as yet. I believe the future of breast substitution promises an immense reduction in the mortality which so persistently follows artificial feeding. The breast milk that is now going to waste should be utilized and an industry created by systematic registration bureau work. Organization in the large population centers that will command the confidence of the profession for the registration of certified wet-nurses under competent medical supervision is the demand of the hour. The subject of physiology and hygiene of lactation is the study of the future for pediatrists. In this line of work the frequent analytical examination of breast milk must be an important factor.

DR. J. B. LEARNED, Northampton, Mass.—I should like to refer to one or two factors which have a bearing on the growth of the infant other than foods, i. e., pure air, absolute letting alone except feeding, keeping clean and regularity of feeding when unnatural feeding is resorted to. I do not believe it is possible to-day to take the average young mother out of civilization and make her a good normal animal to furnish food suitable for the infant. If, however, the normal mother exists in the country away from civilization and society, and away from the chemist and the doctor, and she brings forth an infant, and cares for it in the natural way, I expect that infant will be normal. Years ago I was convinced that if artificial food must be given it should be made of two parts water and one part milk. This was in 1866, and I endeavored at that time to feed an unfortunate and motherless infant with this artificial food. I followed the lessons in my notebook, for I had every confidence in my teacher, but the child's growth and weight remained day after day the same. Gradually I began to increase the quantity of milk and lessen the amount of water, and at an early period reached whole milk. Since then I have always used whole milk, not only with this child but with other children. I do not begin carefully with very weak food until acquainted with the child, but start with whole cow's milk, but in very small quantities and at intervals of three hours. I was astonished on one occasion to read in a medical journal that one physician said that an interval of four hours was too short. My rule was to stop at night and begin the feeding again in the morning. Regular feeding in small amounts with undiluted and normal milk, the youngster being in good air, so as to secure normal conditions, has given me good results. I do not have these children bathed night and morning and kept in a stuffy nursery, but they are put in bed right by the open window. These children grow steadily and most satisfactorily.

DR. EDWARDS, California—In this discussion we are evidently trying to get near to Nature. I believe there are more normal mothers in this country than the last speaker would have us believe. With regard to the open windows, I would say that we make a mistake to think that we must have cold air in order to have fresh air. Babies usually cry at night, and the conditions in the daytime are the same as at night except as to temperature. Is it not possible that the sugar and water and other things given the little infant in the first few days of life cause an infection of the stomach? I have found it difficult to keep the mother and the nurse from giving such things during the first three days, as they insist that the youngster is hungry. Of course, it is hungry, and it should be so, but Nature supplies the nourishment in the breast. I believe that very often the infant is started wrongly and the stomach becomes infected, and then even a normal food will not act properly. Giving the infant nothing but sterile water in the first three days seems to me better; keep the infant warm and the mother and infant will both more closely approximate the normal.

DR. J. LOVETT MORSE, Boston—I should like to ask if Dr. Learned has fed all his babies on whole milk, and if they have all done well.

DR. LEARNED—So far as I have had control of babies I have done so, and, as a general thing, they have done well.

DR. MORSE—I do not think this statement that the food for a baby at birth should be whole cow's milk should go unchallenged, because it is almost the universal experience that cow's milk needs to be modified at this period. Experience also indicates that the interval of feeding should be rather short at first, and that three hours is too long. In the first few days of life the stomach becomes empty in an hour and a half to two hours, and this points to the advisability of giving food at comparatively short intervals.

DR. H. J. ROCK, Aberdeen, S. D.—My experience has been that children are usually given too little fat. Fully 33 1-3 per cent. of the total solids are fat, and I think we have been giving too little instead of too much fat. The remarks of Dr. Cotton have given us the beginning and end of infant feeding. It is a common experience that much trouble arises from the mother and nurse giving the child something immediately after birth. The infant can get sufficient nourishment by being placed regularly at the mother's breast.

DR. I. N. LOVE, New York—I believe that medical men are largely responsible for the tendency of mothers to neglect their duty as regards the nursing of their infants. My experience has been that if mothers are properly impressed with the importance of nursing their infants they will almost universally assume their duties. This has been impressed on me because out in St. Louis a physician of large practice took the position that the mother should not nurse her child, and that the modern artificial feeding was to be preferred. He educated a goodly number of women in that doctrine. We are all apt to move most easily along lines of least resistance. If the trusted physician teaches the mother that her child will do better on artificial feeding, and she can at the same time have a better time, the mother will be very apt to neglect her duties. The mother should be guarded during the entire period of her pregnancy, and I regret that there is so much dividing up of the work. I am sure the pediatrist fully appreciates this. We have largely solved the problem by great care in artificial feeding, but in consequence of our ability to artificially feed infants successfully we have neglected our duty to nursing mothers. The maternal instinct is the strongest one in almost every woman, and if women are properly impressed with the importance of their duty to nurse the infant, they will usually not flinch from this duty any more than they will usually do so if properly advised against destroying the child yet unborn.

DR. EDWIN ROSENTHAL, Philadelphia—The papers of this morning have dealt with the class of patients which can easily comply with the rules laid down. It is far different with those people who hardly understand what is meant by diluting or

modifying milk. In a dispensary service which I attend every August, and where I see many children daily suffering from diarrhea and acute enteritis, the question of infant feeding is an exceedingly difficult one. In Philadelphia the Pediatric Society has assisted the physicians by giving them a better milk supply. Among these dispensary patients the physician must personally irrigate the bowel once a day. If the mother has any milk in the breasts, no matter how little, she is not allowed to wean the child. She is not allowed to do this in the summer even though she is pregnant up to the eighth month. While chemical analysis of the breast milk can be done, I think we can accomplish a good deal by simply examining the milk with the microscope. When I find under the microscope that the fat globules are large or are not seen in sufficient number, I put the mother upon a diet consisting chiefly of meat, and this seems to answer admirably. I do not give them beer or malt because the infants of mothers taking beer almost always become colicky.

DR. SHUTT, in closing—I wish to accept the criticism that was made regarding the title of my paper.

DR. FISCHER—*Mr Chairman:* Before the discussion is closed I am sure the Section would be glad to hear from Dr. Jacobi on this subject.

DR. A. JACOBI, New York—Having been absent during the reading of this morning's paper I can make a few remarks only. Infant feeding, to judge from American and European journals, is as mooted a subject as it always was. Every new article, every new suggestion, claims to be final. Everything appears to be completely settled—from month to month. It happened last winter that after infant feeding had been satisfactorily settled, in one of the meetings of the Medical Society of Berlin, there were six or seven men, all of whom had an absolutely certain and successful method of infant feeding. One of them advised raw milk and insisted that every infant given it got well. Another advised pure boiled milk, and claimed the same good results. Another advised the old Dutch plan of giving buttermilk and claimed just the same results. Another advised the dilution of milk with water or with cereals. Every one of these methods was asserted to be the proper feeding for every infant; usually, Mr. Chairman, as it is with us. Now, we generalize too much with regard to infant feeding. We have gained only a few, but very important, points in the last ten or twenty years. These are, that cow's milk must be pure, fresh and germ-free. These are the absolutely essential conditions. To say that dilution with water alone is the proper thing; to say that in every case without any exception dilution with cereal water should be practiced is wrong; in every case we must be sure, however, of having good milk. It is the duty of the community to see that this is furnished to those who can not procure it for themselves. With regard to the feeding of the newly-born, it is certainly true that most infants are starved and that they always lose the first week in weight under the usual management. This loss of weight is looked upon as a necessity, a natural low axiom, but it should not be so. I am of the opinion that such a baby should be fed principally with water, for it is principally water that is lost. With the changes in the circulation occurring immediately after birth a good deal of urine is expelled, very much more than before birth. The skin and the lungs eliminate water, and this deficiency should be made good. Some food is also necessary. If the newly-born is given water and very little solid it will not lose weight. One of the reasons why the newly-born should be supplied with water is the presence of uric acid infarctions. On the third day the diapers are frequently filled with yellow powder resulting from the disintegration of uric acid infarctions. This may last three weeks. The uric acid accumulating in the pyramids of the kidneys often causes irritation to such an extent even as to give rise to local bleeding and often leads to nephritis, which is a frequent occurrence in the very young. This can be prevented by the free use of water for a number of days after birth. The frequency with which renal calculi are found in very young infants is due to the neglect of this precaution. There is probably no one special method of feeding children which is absolutely the true one. In many cases we are compelled to change, but the principle that the milk shall be fresh, clean and germ-free holds good. When it can be had fresh, that is, in the country, it should be used fresh, that is, unboiled; the same milk when it requires many hours before reaching the city consumer, should be boiled. At all events, however, cow's milk should not be given the average infant without dilution. For such dilution I have always prepared cereal waters (barley or oatmeal) to pure water.

DR. FISCHER, in closing—I am very thankful for the kindly criticisms of my paper, and am glad to know that several gentlemen have met with these milk idiosyncrasies. Dr. Morse asked me why the malt soup agrees; was it because it contained vegetable proteids? He also asks with reference to the combination of whey and milk. I might say in answer that malt soup and other vegetable proteids were given to this baby because animal proteids were not well borne. Bean flour soup and pea flour soup diluted with water were also well assimilated.

Children do not gain as much weight with malt soups as on an exclusive milk diet—but then, we are dealing with abnormal conditions and proper allowance must be made therefor. Malt soup is very extensively used abroad. I saw it given to athrepsic cases in that beautiful new infant asylum under the supervision of Dr. Finkelstein in Berlin. The soup is and has been fed for many years at the nursling pavilion of Kaiser and Kaiserin Friedrich Children's Hospital under Prof. Baginsky's supervision. This encouraged me to use it and as I told you in my paper—with gratifying results.

I am pleased to hear Dr. Kerley has also met with milk idiosyncrasies in children. I regret that I have not read his paper, as I searched the literature thoroughly.

Regarding whole milk feeding: Because infants at birth receive pure milk, many reason thus: If children at birth can digest mother's milk, they can and should digest pure cow's milk! ergo—feed pure milk. Right or wrong, this theory is still practically carried out in some places.

While in Munich last year, I called on Dr. Oppenheimer, a staunch advocate of this method of pure milk feeding. He feeds four to six ounces at intervals of 2 to 4 hours from birth. I was greatly interested in this method and saw about half a dozen children that had been fed on pure cow's milk in infancy, and soon after birth.

Dr. Oppenheimer told me that his babies very frequently vomited, but he laid no stress on this. Almost every baby I examined at his clinic was rachitic, and I called his attention to that.

I should like to ask Dr. Jacobi whether, when he said "germ-free" milk he meant milk that might contain thirty thousand micro-organisms to each cubic centimeter. This is not germ-free milk, and I am surprised that the milk commission in New York City allows this number of micro-organisms in the milk. It certainly shows that the great danger of swallowing micro-organisms is overdone, and is a decided argument in favor of raw milk feeding.

DR. SOUTHWORTH, in closing—I think Dr. Cotton misunderstood me if he gained the impression that I recommended an entirely fluid diet for the nursing mother. I recommended an ordinarily nutritious diet, and in addition nutritious fluid diet to make up the necessary quantity of fluids. In speaking earnestly on a subject one sometimes conveys a wrong impression. I do value the chemical analysis of milk, but my opinion is that many physicians have been led to believe that in order to do anything for a case of faulty breast milk such an analysis must be made. I endeavored to oppose that notion only. If the mother's health and diet and habits of life are properly regulated, it will not be necessary in the majority of cases to know the composition of the breast milk. With reference to the use of malt extracts I would say that I rarely use them except in those cases in which the analysis shows that the fat in the breast milk is deficient. As a builder of fat in the breast milk the malt extracts are of a distinct value, but there is always some danger that if they are given the mother will think that this is all sufficient, and

will, therefore, neglect diet, exercise and other things of greater importance.

DR. MCALISTER, in closing—When it is impossible to give an infant mother's milk, for any reason, modified milk alone should be given; proprietary foods are not to be used. In the home preparation of modified cow's milk, modern clean milk is to be used. Sterilization is then unnecessary, Pasteurization is sufficient; from the investigation now being pursued in this direction, the time will come when Pasteurization will be a thing of the past, excepting in midsummer. The profession should encourage dairymen to improve their milk so that it would contain few bacteria, then infants could be fed on cow's milk, simply modified to approximate normal breast milk.

DR. JACOBI—When I said "germ-free" milk I referred to milk which does not contain the germs of diphtheria, typhoid fever, tuberculosis, scarlatina and other infectious diseases.

Clinical Report.

STRICTURE OF URETHRA, ORGANIC; URINARY FISTULA; CYSTITIS, AND IRRITATIVE CANCER OF SCROTUM, INVOLVING TESTICLES AND URETHRA; RECOVERY.

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Though strictures of the urethra are frequent, particularly among our seamen, a report of the case herewith submitted presents unusual complications which may be of interest to those especially interested in genito-urinary surgery.

The subject of this report was admitted to the U. S. Marine Hospital, Chicago, June 19, 1898. He is a white, aged 52, a native of Wisconsin; occupation, marine engineer. Family history is good and his general health has always been excellent, barring the present lesion. He states that he has had a stricture of the urethra for 23 years, that internal urethrotomy was performed in 1893, after which he passed a sound himself occasionally, also that he made a false passage while passing a sound four days previous to admission.

When admitted there was a small opening, about 2 cm. in diameter, which was gangrenous, at the middle portion of the scrotum, through which urine escaped at each urination.

On examination a stricture of the urethra was found at the membranous portion and sounds were passed with some difficulty.

Treatment.—Hot bichlorid dressings were applied to the scrotum and a silk elastic catheter retained in the urethra. The patient improved rapidly, the fistula closed, and he was discharged July 21, 1898, feeling well and able to resume his duties on board ship.

He was readmitted Nov. 30, 1901, and stated that after leaving the hospital in 1898 he had not been under treatment and had experienced no difficulty in passing urine until within the past few months, since which time he has noticed a slight dribbling of water through the scrotum at former site of fistulous opening.

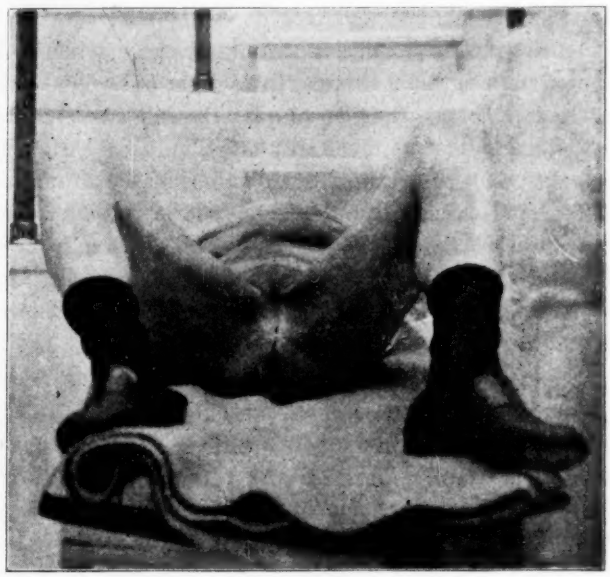
On admission the patient appeared to be well nourished, though he presented a muddy complexion. The scrotum was greatly enlarged and two openings were found at its lower surface connected with each other and extending into the urethra just anterior to its membranous portion. A stricture was found about 3 cm. from the meatus and one involving the membranous and prostatic portions of the urethra.

First Operation, Dec. 2, 1901.—Under chloroform anesthesia, the sinus connecting the openings was laid open, the parts curetted and firmly packed to control the venous hemorrhage, which was considerable. The cystitis which was present at this time was treated by irrigation of the bladder with permanganate of potash, 1:10,000. Sounds were passed up to 25 F. and a full-sized silk elastic catheter was retained in the urethra.

Microscopic examination of the growth was made by Passed Assistant Surgeon Geddings at the Hygienic Laboratory of the Service, Dec 27, 1901, who reports that while the tissue examined was not considered a typical epithelioma there was a proliferation of the stratum granulosum into the corium, and "the somewhat atypical appearance was probably due to the slow growth or short duration of the condition."

Second Operation, Jan. 5, 1902.—It was decided to remove the entire scrotum, testicles and penis. This was done by the Paquelin cautery after ligation of the spermatic cords high up. Hemorrhage was easily controlled and the patient experienced no profound shock. A rubber catheter was retained in the urethra for two weeks. It should be noted that the patient suffered considerable mental disturbance for a few days after the operation on account of the loss of his organs.

After Treatment.—Beginning three weeks after the operation numerous small skin grafts were planted on the granulating surface at different times. Suppuration delayed the healing. The enlarged glands, one a typical round celled sarcoma, were removed from the left groin, but on May 6 the patient was discharged entirely well, weight 180 pounds; control of urination perfect. All of the lymphatic glands are apparently normal in size and there is no indication of a systemic invasion.



Site of the lesion, showing mouth of urethra.

I am indebted to my friend Dr. A. J. Ochsner, and Assistant Surgeons Billings and Fricks for valuable assistance in the treatment of the case.

Importance of Indications to be Derived from Analysis of the Feces.—Oefele of Neuenahr has been publishing in the *Med. Blätter* since January a series of articles on this subject. They are based on the results of 630 analyses of feces which he tabulated in No. 5. The analysis reveals the existence of absolute or relative steatorrhea, amylorrhea or proteorrhea and indicates the necessity for the administration of sapo medicatus, diastase, pepsin or the use of other measures to correct and cure the anomaly in the digestion. Before any special diet is ordered the systematic analysis of the feces is indispensable, especially in diabetes. He describes some typical instances in detail which corroborate the benefit to be derived from a diet or medication adapted to the individual case and the danger of ignoring the special indications to be learned from the feces. He recommends sending them to a central laboratory where for a small sum the practitioner can be informed as to the albuminoids, fats, carbohydrates and their products in the feces sent for examination. More detailed analysis would seldom be required.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, AUGUST 2, 1902.

CONTAGIOUS EYE DISEASES IN THIS COUNTRY.

In a recent article on "Immigration's Menace to the National Health," Mr. T. V. Powderly,[1] Commissioner General of Immigration, called attention to the efforts of the United States authorities to exclude from the country, especially in recent years, such affections as favus and trachoma. There is no doubt that as a consequence of the extensive immigration, particularly from certain parts of Europe, these diseases have become much more frequent in this country than they used to be. Favus is a loathsome, uncleanly affection, eminently undesirable, though not apt to inflict serious harm on the affected individual beyond the temporary unsightliness that it occasions. Trachoma is, however, not only very contagious, but may produce serious changes in the structures of the eye that lessen acuity of vision and may, if neglected, even lead to complete blindness.

Mr. Powderly calls attention to the fact that sometimes political influence is appealed to to secure the admission of immigrants afflicted with this disease, especially if it is in mild form and causing few external symptoms, and that efforts are likely to be made to bring such undesirable additions to our population by other ways than through the usual ports of entry. Needless to say, the possible success of all such efforts must by all means be prevented. No matter how apparently mild an affection trachoma may be in certain cases, it always constitutes a serious menace because of its well-recognized contagiousness. The very absence of outspoken symptoms of the disease adds to the insidiousness of the risk of infection involved and removes the ordinary danger signal that forms the best safeguard for those brought in intimate relations with individuals suffering from it.

How real the danger in this matter is can be gathered from the recent report read by members of the ophthalmologic section of the New York Academy of Medicine in June of this year. Dr. Richard Derby presented the results of his personal investigation of school conditions as to eye diseases in New York city. He examined the eyes of all the pupils in two crowded public schools on the lower east side of the city. Nearly two thousand pupils were subjected to the examination, and about 20 per cent. of them proved to be suffering from contagious eye diseases. Of these more than one-fourth of the cases were found to be so serious that cure of the condition could only be reasonably hoped for after operation. These cases have evidently carried with them for a long time a very serious risk of infecting others. If their attendance at school is not prevented this risk will continue practically indefinitely, for they do not belong to a class of people that are likely to be awakened to a sense of their duty in the matter without authoritative interference.

It is probable that something of the same state of affairs exists in every large city of this country that contains any considerable percentage of recently immigrant foreign population. Trachoma is especially prevalent in Russia, Syria and Italy, and it is from these three countries that of late years a large proportion of our immigrants have come. No effort must be spared to keep the disease from becoming a serious menace to sight in this country. For many years now, as pointed out by Dr. Derby, the conditions for the care of the eyes are much more favorable among our city population than among country folk. Nearly twice as many of the blind in our asylums at the present time come from the country as from the city. The introduction of foreign elements should not be allowed to change this very commendable state of affairs. Individuals affected with these diseases must be kept out, and neither political influence nor official neglect at points along our borders should be allowed to connive at their entry.

At the same time it is evident that there are already existent in our large cities so many cases of contagious eye diseases as to require special inspection and stringent regulation in order to secure their eradication. Boards of health throughout the country should emulate the example of the health board of New York city, that at once recognized the danger to its school children when it was pointed out, immediately undertook a census of the schools as regards the existence of contagious ophthalmia and is ready with the beginning of the school year in September to enforce the hygienic regulations that will prevent all risk of further spread of the infection among the children in attendance at the public schools. This should be only a preliminary step to following the disease to the tenement houses where it exists among the adults, and so securing the obliteration of every trace, if possible, of the unwelcome foreign pathologic visitant.

1. North American Review, July, 1902, p. 53.

THE FOOD OF THE INFANT.

So long as the infant mortality is high the food of the infant will be a most important subject. Since the etiology of nearly every disease that afflicts the human family is either based on the food supply or is influenced in greater or less degree thereby, it is easily seen how important to the infant is the nature of its food and how the variations influence the infant far more than they do the adult. The family physician, the gynecologist, the obstetrician, the specialist—all are concerned in preparing the way for the infant's life and preserving it from harm, and they rightly demand of

him who directs its diet that he shall give it every possible chance for life and health.

The alarmingly disproportionate mortality rate among artificially-fed infants—even if we adopt the most conservative statistics—is a fact that can not be carelessly considered. Other results short of death, such as anemia, marasmus and the lessened resistance that opens the door for a host of maladies, must not be lost from view in debating the question of artificial feeding. The four timely articles with the discussions they elicited at the Saratoga meeting, which appear on pages 244 to 257 of this issue, emphasize these and many other points. Statistics and our own experiences must make us warn the parents with whom we deal of the perils of artificial feeding. This is not to condemn the many good prepared foods. We all know children of whom we say, "This is a Blank's food baby." The family physician can furnish long lists of babies who have been brought up by the use of this or that food, when the maternal font did not suffice. The prepared infant's foods are not devised, however, from purely philanthropic motives, and some of them fall far short of the required composition that would fit them for use, but it may not be amiss at this point to express a word of praise for some of them which are such valued and beneficent additions to the physician's armament. But the prepared food must ever be the last resort, and it is our duty as physicians to see that their alleged merits are not made a pretext for the indulgence of the indolence or social ambition of the misguided mother. The proprietary foods are advertised in every paper; they daily impress on the mother that they are better than the supply the Creator provided for her babe; other mothers add their testimony that their children were brought up on such and such a food, and the rosy-cheeked children are shown in evidence. Methods of modifying cow's milk are proclaimed to be simple; the pure-milk crusade encourages the mother in the belief that cow's milk will take the place of her own. All these influences impress the mother in favor of artificial feeding, and on the family physician or the accoucheur or the chance attendant falls the burden and responsibility of giving the testimony for the other side. Let the truth not lack for witnesses.

When the breast milk fails simply in quantity and every possible measure fails to secure a sufficient secretion, let there be supplemental feedings, as Southworth points out. The suggestion that when a ship captain finds rations insufficient for his crew he does not thereon throw the whole supply overboard, may seem a far-fetched analogy, but it is thoroughly appreciated by those who see the abuses of artificial feeding. So long as there is any good breast milk let it be utilized. To place a baby on artificial food, either in whole or part, the subsequent course should be watched. The accoucheur does not attend a woman in confinement and fail to visit her subsequently. Unless he be relieved by the regular physician or an assistant, he watches the woman through the puerperium. Thus the physician who finds artificial feeding imperative must not advise a certain modified milk and go his way, forgetting the case. He must watch and frequently examine and guard against errors in the diet. If the family wishes no further visits, it is the duty of the physician, ere he leave the case, to impress on the parents the means of crudely judging of the baby's health and the necessity of consultation at a future date.

In short, the responsibility of removing an infant from Nature's supply and giving it cow's milk or some artificial food is one that should not be lightly esteemed by the physician. The improvement of breast milk by every possible means, the selection of the best-suited supplement or substitute, the careful watching for evil effects—these are all to be earnestly borne in mind in the care of the infant. "Give the baby the best."

A STUDY OF TWENTIETH CENTURY SUCCESS.

In an interesting article with the above caption, Prof. E. G. Dexter[1] has presented a study of how the men and women, who in the opening year of the twentieth century are prominently in the public eye, achieved the success in their various vocations which has placed them there. As a basis for this study he has made use of "Who's Who in America" for 1900? This volume contains the names of 8,602 persons, each of whom has attained a degree of eminence before the public.

It was found that the probability of achieving eminence was increased more than 5.6 times by a college education, but Dexter does not attribute this advantage entirely to the direct educational effect of such a training, but, to a considerable extent, to the selective influence of the course.

As to the age at which eminence may be reached, he finds that in those callings which presuppose a professional or, at least, an extended preparation, that of scientist seems to promise the earliest recognition. This is perhaps due to the fact that the scientist enters on his lifework with a more complete intellectual equipment than most others, and that during the period of preparation opportunities are offered for research and original investigation which may bring renown before his real lifework is begun. Recognition comes earlier to the physician than to the lawyer or clergyman, because in many cases the same conditions apply to him as to the scientist.

It is of interest to note that the "banner professions," so far as educational accomplishments are concerned, are those of college instructor and medicine. Of the eminent medical men, mentioned in "Who's Who," 42 per cent. have received academic degrees (honorary degrees are not included), while only 6 per cent. have had elementary education alone. Only 7.5 per cent. of the medical students of the country, according to the Commissioner of Education, have academic degrees. This would indicate that the probabilities of a phy-

1. Popular Science Monthly, July, 1902.

sician attaining prominence is nearly six times greater if he has a college training. Dexter considers that it is as scientist and producer, and not as a practitioner of medicine, that the physician is most largely aided by such a training. He also believes that the scientific societies of physicians undoubtedly stimulate more of their members to original research and investigation than do similar organizations among clergymen and lawyers, and it is here that broader training would count for most.

In marked contrast to the medical profession, 40 per cent. of eminent lawyers and 24 per cent. of eminent clergymen have had neither professional training nor academic instruction beyond the high school. Thus, of the three generally recognized learned professions, the medical leads in the breadth and perfection of its educational preparations. If it has been true in the past that eminence in medicine has usually required exceptional general and special education for its attainment, it will be even more so in the future, as the work of the physician, not only as an original worker and investigator, but also as a practitioner, is constantly approaching more nearly that of a pure scientist.

MEMBERS' REUNIONS.

The resident members of the American Medical Association in Connecticut have started a movement that ought to be fruitful both of pleasure and profit, namely, an annual reunion. An account of the first of these and of the organization effected is given under Association News, but this pioneer movement deserves to be called to the attention of the membership of the Association generally. The social and fraternal advantages of such an organization are sufficiently obvious to every one and its value to the Association is equally apparent. While such a state reunion is especially adapted to the needs of the membership in the smaller compact commonwealths like the New England states, it is practicable, under perhaps slight modifications as to detail, in other communities as well, and we hope to see them do likewise. Such measures usefully supplement the general plan of organization.

MEASLES AND WHOOPING COUGH DANGEROUS DISEASES.

An editorial in *Merck's Archives*[1] points out the fallacy of the popular idea that measles is a harmless disease. The report of the New York Department of Health for the quarter ending March 31, 1902, shows the deaths from measles during the three months to have been 349, while only 356 deaths occurred from scarlatina during the same period. In 1900, the fatality in the United States from measles was 12,866, from whooping cough 9958, while there were but 6333 deaths from scarlet fever during the same year. The fatality in the former diseases varies much with the character of the epidemic, and with the age of the patient, but the total mortality is very large and much greater than is usually supposed. Among the laity it is generally thought that measles and whooping cough are not serious and that they do not require the attention of a physician, while scarlet fever is considered very dangerous. The facts are that more deaths are due to each of the former diseases than to scarlet fever. Cases of measles and whooping cough, especially in infants, require the closest watching by a physician.

1. June, 1902, p. 252.

RECURRENCE IN CANCER.

The question of the permanent curability of cancer by surgical means is one of paramount importance. From time to time cases have been published, both in this country and elsewhere, of patients that have survived for years after operation for cancer. Recently Labhardt[1] has subjected the question of recurrence to an investigation, based upon a study of suitable cases reported in the literature and upon a number of observations made in the surgical clinic of Professor Garré at Königsberg. The particular question that Labhardt undertook to study was the occurrence of late recidivations. The return of a cancer after its removal has been and is the especial fact that makes the prognosis in operations for cancer so gloomy. In 1875, R. Volkmann promulgated the law that when a complete year has elapsed since operation without local recurrence, glandular swelling or symptoms of internal disease being demonstrable by the most careful examination, then one may begin to hope that a permanent cure has been obtained; and that after two years of freedom from any of these events permanent cure is usually, after three years without exception, certain to be the case. Since that time it seems that most authors have accepted Volkmann's generalization. Labhardt collected, after a thorough sifting of the cases in the literature and in the clinic, 112 cases of late recurrence, i. e., after the third year. There was nothing remarkable about the age and condition of the patients in whom these recurrences developed. As regards time of the return, he finds that the majority occur in the fourth to the sixth year after the operation. After that recurrence is more rare, but he cites cases of recurrence in the fourteenth to the twentieth year, and even later. The reason that he speaks of these cases as recurrences is that the majority of them (75 per cent.) developed as local growths in the scar from the operation. From a study of these cases it would seem that the claim made by Duplay is correct, namely, that the period during which time recidivation is possible appears to be, alas, indefinite. Volkmann's statement can not be accepted as correct any longer. Labhardt also states that in many cases there was a late appearance of metastases, but in much smaller proportion than the late local recurrence. In many cases, of course, it would have been exceedingly valuable and interesting if the growth that appeared so long after the operation could have been compared in structure with that removed first. In a few cases this was possible. He gives a table of cases of operations upon the mammary gland for cancer, showing that in 2,107, 48, or 2.3 per cent., showed late recurrences; that is to say, after the fourth year. In the case of 491 cancers of the rectum, 22, or 4.4 per cent., showed recurrence after the third year. It seems, then, from this study that a considerable percentage of pa-

1. Beiträge zur kl. Chirurgie, 1902, xxxiii, 571-626.

tients operated on for cancer may have recurrences several years after the operation, mostly in the scar. The cancers that are most liable to recur are the slow-growing, relatively benign scirrhous tumors.

SANITARY PROGRESS IN THE PHILIPPINES.

In the *Outlook* of July 26 there appears a very interesting report of the sanitary progress in the Philippines since the American occupation. Though written for lay readers, it contains information of interest to physicians and has been prepared by one who has had full opportunities for observation in his position as secretary to Prof. Worcester, head of the Interior Department of the Insular Government. According to the author, Mr. Leroy, the Americans had practically, as the saying is, whole cloth out of which to make a sanitary reform in Manila. There had been an almost total indifference to health matters on the part of the authorities, the natives were ignorant and suspicious and added to this was a contingent of 50,000 Chinese with their Oriental stolidity and indifference to human life and all measures of cleanly living. The army authorities had first to take matters in hand, and they did this so thoroughly that the changes in the condition at Manila were made the subject of a special report to his government by the British consul general. Smallpox was practically stamped out, though it had been an endemic; bubonic plague, when it occurred, was kept under control and is, it is believed, guarded against for the future, and the cholera—which is less manageable and serious enough according to our notions—kept down so much below the severity of former epidemics that the hostile Spanish papers have even sneered at its existence, calling it "official cholera." New building regulations and other sanitary measures have been adopted, and, while the present cholera epidemic has temporarily raised the percentage, in the main the death rate of Manila has been reduced an average of 50 per cent. What has been done in Manila has been more or less accomplished in other parts of the territory, and attention has also been given to animal and agricultural plagues, the rinderpest and the locust plague. "The services that will be rendered to the Filipinos," says Mr. Leroy, "if these two scourges —which have literally been worse than war the past two years—shall be mastered, can only be appreciated by one who has been on the ground." This enumeration covers only a part of the work that has been done or planned, and while some mistakes may have been made in some quarters, in a lack of appreciation of and consideration for the native character and prejudices, the general result has been from this showing one of which we may be proud and which parallels in a degree the good work that has been done in Cuba. The problem in the Philippines is a vaster and more complex one in many respects, but we believe it is not too much for our sanitarians, either of the army or their successors of the civil administration of the islands.

CLASSIFICATION OF BENIGN TUMORS IN THE THYROID.

The word goiter is used in a different sense by different writers, many of whom, like Orth, Wölfler and others, apply the term to all enlargements of the thyroid gland. Others restrict it to benign tumors of the thyroid, and by others again it is limited to hypertrophy only. Pratt[1] suggests that it would be well to restrict the use of the word goiter to the endemic thyroid enlargements that occur in certain regions. He considers the classification of tumors of the thyroid of a benign character, not including the swellings of endemic nature. He classifies the growths that correspond in structure to normal thyroid tissue, and are classed by many as hypertrophies, as simple adenomas for the following reasons: First, it has been shown by Wölfler that such growths develop from embryonic rests in the stroma; second, many of the enlargements are circumscribed and sometimes encapsulated; third, such growths may form metastases, Housell having collected twelve such cases from the literature. According to the secondary changes which simple adenomas may undergo, there develop colloid, cystic and fibrous groups. Among the interesting secondary changes that may occur in these growths is the formation of typical bone with corpuscles and medullary spaces. This form of thyroid tumor is undoubtedly the most common, especially if we consider also the endemic goiters of this type. In the intervesicular tissue of the thyroid small epithelial masses may be found; these are regarded as undeveloped thyroid tissue, and may give rise to tumors which it is proposed to call fetal adenoma. The fetal adenoma is often multiple, variable in size, usually encapsulated, and consists of epithelial cells arranged in columns or masses or in circles enclosing small spaces. The distinguishing feature is that they usually contain little or no colloid. Pratt suggests that these growths are worthy of further study because they may be less benign than ordinarily assumed. The third type is the papilliferous adenoma, of which there may be two forms, (*a*) the papillæ developing from the walls of old cysts, (*b*) true papilliferous adeno-cystoma. These tumors lie on the border line between the benign and the malignant. The papilliferous tissue is delicate, the stalks being covered with cuboidal or columnar epithelium. Colloid material is rarely present. In conclusion it may be said that the classifications of thyroid enlargements hitherto in vogue are far from satisfactory because so confusing, and all attempts to reach a more accurate understanding of the tumors of this organ are welcome. So long as we are satisfied to call every growth in the thyroid goiter it is not likely that much advance will be made in the establishment of the real nature of the etiologically and structurally different processes that lead to thyroidal swellings.

Physiology of the New Human Organs Discovered by Zuckerkandl.—The fetus and infant under one year have two organs in the retroperitoneal space on each side of the aorta, a little below the inferior mesenteric artery. They are about 11 mm. in length, and correspond in structure to the medullary substance of the suprarenals. They are abundantly supplied with blood vessels, and consist of a close network of capillaries with large polymorphous cells which stain yellow with the chromin salts. Biedl has found that an extract of these organs has the same effect in intravenous injection as suprarenal extract. This indicates that the action of suprarenal extract is due exclusively to the medullary substance and is the property of all chromophilous cells.

1. Boston Medical and Surgical Journal, July 3, 1902.

Medical News.

DISTRICT OF COLUMBIA.

Dr. Henry D. Fry, Washington, has purchased the Wills Mountain Inn, on the summit of the mountains overlooking Cumberland, Md., including five acres of ground and will convert the property into a sanatorium.

Faculty Changes in Columbian.—The following changes and additions have been made in the medical faculty of the Columbian University: Dr. Walter Reed, U. S. Army, has been elected to the chair of general pathology; Dr. Sterling Ruffin, to the vacancy in the chair of practice of medicine; Dr. Thomas Claytor to the chair of materia medica and therapeutics; Dr. H. B. Deale, a professor of clinical medicine; Dr. William H. Hawkes, a professor of clinical medicine, and Dr. James Carroll, U. S. Army, as associate professor of pathology and bacteriology.

Providence Hospital.—The building fund of Providence Hospital now amounts to $300,000, and the new buildings are well along toward completion. The large extension to the main building will be ready for occupancy by Jan. 1, 1903, while the nurses' home and power house will be completed about the same time. The last annual report of the hospital authorities—for the year 1900—shows that 2640 patients had received treatment, and that if the facilities of the institution had been greater they would doubtless have been taxed to their full capacity, as it was necessary to turn away patients because of lack of room, although even the halls were turned into wards.

School Inspectors Vainly Volunteer.—The District Commissioners have received a communication from a large number of Washington physicians, tendering their services to the District free of charge for the purpose of inaugurating a medical inspection in the schools. A strong effort was made during the last session of Congress to have such a system annexed to the schools, but the proposed legislation failed. As much as the Commissioners appreciate the offer of the physicians they are unable to accept their services, it having been provided in a deficiency act passed by Congress for the year 1898 that "Hereafter the Commissioners of the District of Columbia shall not accept volunteer service for the government of the District of Columbia or employ personal services in excess of that authorized by law except in cases of sudden emergency involving the loss of human life or the destruction of property."

ILLINOIS.

Chicago.

Hospital at Bowmanville.—Plans are being made for a hospital at Bowmanville to be built for the Swedish Home of Mercy. It is to be two-story, 43 by 78 feet, of pressed brick and stone, and will cost $20,000.

Personal.—Dr. and Mrs. John Leeming sail for Europe, August 12. They expect to take an extended coaching trip through the English Lake District.——Dr. Joseph W. Wassall left for Stockholm, Sweden, July 19.

St. Luke's Society Fire Aftermath.—The examination of the hospitals of the city by the building department has been completed. Alterations have been ordered in all of them except one, the Alexian Brothers' Hospital, which was found up to all requirements.

Deaths of the Week.—The total deaths reported for the week ended July 26 were 520—one more than the previous week but 97 less than in the corresponding week of last year. This is equivalent to an annual death-rate of 14.90 per 1000. There is the usual seasonal increase of typhoid and the other impure water diseases.

Reduction in Child Mortality.—During the ten years between 1882 and 1891, inclusive, there were 161,170 deaths of all ages in the city of Chicago, of which number 78,236, or 48.5 per cent., were of children under 5 years of age. During the succeeding ten years, 1892-1901, inclusive, there were 244,132 deaths of all ages, of which number 96,540, or 39.5 per cent., were of children under 5. This is a reduction of 18.5 per cent. in the child mortality of the last ten years.

Prosecution of Unlicensed Practitioners.—The attorney of the State Board of Health in Chicago is conducting a vigorous prosecution against unlicensed practitioners in that city. Among those against whom suits have been instituted during the past week appears the name of E. O. Miller of St. Luke's Society fame. The board has just obtained proof of his practice in the hospital which was recently burned. Suit was brought against Miller by the board several weeks ago, but he was acquitted by the court.

Midsummer Sanitary Inspection.—Thanks to the publicity given by the press to the statement of the health department concerning the usefulness and the necessity for midsummer sanitary inspections in the tenement-house districts, the Visiting Nurses' Association and the members of the senior class of Harvey Medical College have tendered their services. The Knickerbocker Ice Company has offered to furnish ice gratis to families recommended by the volunteer inspectors on orders countersigned by Miss Harriet Fulmer, chief of the association.

Chicago Sewage and the Drainage Canal.—The State Board of Health is just about to publish a third report on the sanitary investigations made by the board of the Illinois river and its tributaries, and also the Mississippi river. The first report, issued in 1899, gave the results of analyses made prior to the opening of the Chicago Drainage Canal, and the second, published in 1901, brought the results of analyses made down to April of that year. In the investigations in 1899 to 1901 the Illinois river at its mouth was found to be in better condition than most of its tributaries. The amount of albuminoid ammonia in the river at its point of entrance into the Mississippi was found to be far less than in the Mississippi at the same place, and the oxygen consumption markedly less. Practically no organic matter remained in the Illinois river to tell of the enormous pollution 320 miles above. In the opinion of the board this remarkable destruction of organic matter was due to organic oxidation. The results set forth in the reports of 1899 and 1901 are confirmed and strengthened by the investigations conducted in 1901 and 1902, a report of which is about to be published. These investigations, however, were confined to the Illinois river at its mouth, the Mississippi river a short distance above the mouth of the Illinois, and the Missouri river at its junction with the Mississippi. The analyses revealed the significant fact that the Illinois river at its mouth contained less pathogenic and sewage bacteria than the Mississippi and Missouri rivers at the points named.

INDIANA.

Hospital Dedicated.—The new $50,000 addition to St. Anthony's Hospital, Terre Haute, was dedicated, July 13, with impressive exercises.

New College Building.—The new building of the Central College of Physicians and Surgeons, Indianapolis, is to be a modern brick, stone and steel building, with a total floor space of 24,000 square feet. It is to cost about $50,000.

State Board Interposition.—A member of the State Board of Health is preparing a bill to be introduced at the next session of the general assembly making it possible for the state board to interpose when a county board fails to act promptly in checking the spread of a contagious disease.

Breaking Quarantine Legal.—Judge Cobb of Knox County holds that there is no penalty for breaking quarantine. A quarantine was in effect, and Dr. James N. McCoy, Vincennes, led a number of negroes out of quarantine to vote. After they had voted Dr. Norman E. Beckes filed an affidavit against Dr. McCoy for breaking quarantine. The State Board of Health says that the case will be taken to the higher courts, as it is out of harmony with previous decisions.

IOWA.

Muscatine Hospital.—The Hershey Memorial Hospital, Muscatine, opened for the reception of patients July 1.

University Changes.—Dr. William Jepson, Sioux City, has been chosen to fill the chair of surgery in the State University, vacated by the death of Dr. William D. Middleton, Davenport. ——Dr. James R. Guthrie, Dubuque, has been made dean of the college of medicine.

Crofford Released Under Bond.—Dr. J. W. Crofford, Lamoni, who was recently sentenced to thirteen years in the state penitentiary for the murder of Miss Maud Stone, has furnished a bond for $50,000 and has been released from Fort Madison penitentiary, pending the decision of his case by the Supreme Court, under the act providing for such bond passed by the last general assembly.

Plans for Medical Building.—The plans for the medical building of the State University, Iowa City, show the arrangement of the buildings in the new medical quadrangle. The clinical laboratory faces north, while the chemical laboratory faces south. The anatomy building will be within the quadrangle, standing on an inner court, and shut off from view of the street. The other buildings are not fully agreed on. The

chemical laboratory will follow the completion of the general and clinical laboratories and the anatomy building.

Personal.—Dr. Theodore W. Kemmerer, Iowa City, has gone abroad for a year of study in Vienna.——Drs. Carl and Heinrich Matthey, Davenport, have returned from Europe.——Dr. William P. Crumpacker has taken charge of the Independence State Hospital, vice Dr. Gershom H. Hill, resigned. ——Dr. Henry U. Braunlich, Davenport, who has been seriously ill with sepsis, sails for Europe to-day.——Dr. Agnes Eichelberger, Sioux City, sailed for Europe July 5.——Dr. George Boody, Independence, has been made first assistant at the Iowa Hospital for the Insane, Clarinda.——Dr. Harold Bailey, Charles City, has gone to Europe for the summer.

MARYLAND.

Baltimore.

Deaths.—For the week ended July 26 there were 246 deaths, 120 being under 5 years of age, 65 being from cholera infantum. There were 33 inquests.

For Field Hospital Work.—Major William H. Crim, surgeon of the Fifth Regiment, announces that the Hospital Corps will go into camp about August 15, for 20 days.

To Study X-Ray in Cancer.—Dr. Frederick Harry Baetjer, assistant resident physician, has been sent to Europe by the Johns Hopkins Hospital to study the *x*-ray treatment of cancer. He will be gone a year. The result of his investigations may have an important bearing on the method to be used at the hospital in the treatment of this disease.

Personal.—Of the Johns Hopkins Hospital staff Dr. Osler is at Dr. Howard A. Kelly's camp in Canada; Dr. J. M. T. Finney in Massachusetts; Dr. Martin B. Tinker in Europe; Dr. T. B. Futcher at St. Thomas, Canada; Dr. Thomas McCrae at Guelph, Canada, and Dr. B. R. Schencke in New York.——Dr. Harry Adler is at Deer Park, Md.——Dr. Thomas H. Buckler, Jr., is visiting the watering places on the coast of France.—— Dr. Albert M. Reese has been appointed instructor in biology in the University of Syracuse.——Dr. William Green is spending the summer at Belgrade Mills, Me.——Dr. Robert T. Wilson is at Castine, Me.——Dr. Samuel Amberg is in Nova Scotia. ——Dr. Richard H. Thomas is at Wauwisset, Mass.——Dr. Claribel Cone is at Asheville, N. C.

MASSACHUSETTS.

Registered physicians in Massachusetts are said to number 4500, an average of 1 to every 625 inhabitants.

Hospital Roof Garden.—A new idea has been introduced at the relief station of the Boston City Hospital on Haymarket square—a hospital roof garden, which is solving a problem in treating heat prostration cases in the heart of a great city.

Surgery Completed.—The Albert Bowman Wood Surgery, given to Memorial Hospital, Worcester, by Mrs. Albert B. Wood, has been completed and the hospital now has one of the finest and best equipped surgeries in this section. The rooms include a main operating room, sterilizing room, a room for instruments, and two sets of rooms for cleaning-up purposes, a staff consulting room, recovery room and laboratory.

Burrage Hospital Open.—The Burrage Hospital, Boston, a free summer hospital for sick children, began its work, July 14, when a boatload of sick, crippled and deformed children was transferred from the city to the cool and pleasant wards of the hospital on Bumkin Island, in the lower harbor. The hospital is a private philanthropy. It was built by Mr. and Mrs. Albert C. Burrage for a free summer hospital for sick children, whose parents or guardians are unable to provide proper care and treatment for them.

MISSOURI.

State Board Reappointments.—The following appointments have been made by Governor Dockery for members of the State Board of Health to succeed themselves: Drs. E. Lee Standlee, St. Louis; Dempsey T. Powell, Thayer, and J. Alfred Adcock, Warrensburg.

Addition to Hospital.—The board of trustees of the University Medical College, Kansas City, has concluded plans for the erection of a large addition to the present hospital. The new building will be five stories high and will accommodate 50 patients, which, with the old building, will furnish accommodations for 100 patients. It will cost $40,000.

Hospital Menaced by Fire.—Fire in St. Margaret's Hospital, July 17, threatened scores of lives, and only through the quick and heroic work of the firemen was a holocaust prevented. Firemen and volunteers rushed to the top floors and carried the sick through the blinding smoke to safety. None was injured. The fire was extinguished before great damage had been done.

Telephone Profanity.—Dr. Senter L. Gettys, St. Louis, has been fined $5 and costs by Judge Sidener of that city for swearing over the telephone at an operator. The judge declared that crimes or offenses committed at long distance, such as the hurling of oaths at a person in another jurisdiction by means of the telephone, are amenable to the laws in the jurisdiction in which the offense is consummated. The judge also held that profanity has no sufficient provocation, and is never excusable by the plea of self-defense.

Davis Injunction Denied.—Judge Gibson, July 15, denied Dr. George W. Davis, Kansas City, an injunction against the University Medical College and the P. P. Burnap Printing Company, to restrain the former from denying him a chair on the faculty and the right to serve as a member of the board of trustees and the latter from printing a catalogue in which the doctor's name is expurged as a trustee and occupant of one of the chairs of the faculty. The judge rendered a decision to the effect that the university had a right to elect trustees and fill chairs in the faculty at will.

NEW JERSEY.

Resolutions Regarding Dr. Mecray's Death.—At a meeting of the attending staff of the Cooper Hospital, Camden, resolutions were passed emphasizing the loss and extolling the energy, devotion and skill of the deceased in his professional labors as a member of the staff.

In Prison.—Dr. John H. Beynon, Newark, who shot George H. Campbell a year ago, despite his plea of insanity and irresponsibility, has been sentenced to five years at hard labor in the state prison.——Dr. John C. Jones, Millville, convicted of malpractice, has been sentenced to eighteen months hard labor in the state prison.

Joint Isolation Hospital Approved.—At a meeting of the representatives of the various boards of health of the Oranges, held in the rooms of the Orange board, the contract for the establishment of a joint isolation hospital was formally approved. The municipalities will combine in the erection and maintenance of the hospital. The contract will now have to be approved by each one of the boards, after which it will be possible for the representatives to effect a permanent organization.

Personal.—Dr. L. L. Scott, Port Richmond, Staten Island, has been selected as a member of the staff of the City Hospital, Jersey City.——Drs. Thomas Murphy and G. Rossiter have been appointed to the house staff of St. Mary's Hospital, Hoboken.——Dr. L. S. Allen has been made senior surgeon and Dr. Briscoe Ransom junior surgeon at Orange Memorial Hospital.——Dr. Augustus V. Wendel has been appointed chief-of-staff at St. James' Hospital, Newark.——Dr. Frank D. Gray, Jersey City, has gone to Europe for a year of study.——Dr. Alexander S. Ross, resident physician at Cooper Hospital, Camden, has resigned.

NEW YORK.

Albany Medical College will open for its winter session September 23; 53 new students have already been enrolled.

Lackawanna Hospital.—Land has been purchased by the Lackawanna Steel Company, Buffalo, for a hospital. The building will cost $125,000, will be for the exclusive use of employes of the company and will be ready for occupancy early in the winter.

Buffalo Personals.—Dr. Matthew D. Mann has sailed for a short visit in Europe.——Dr. George A. Cloives of the New York State Cancer Laboratory has returned from a six weeks' visit to California.——Dr. George W. York is spending the summer in Europe.

State Sanatorium for Tuberculosis.—With the filing of deeds to-day transferring 514 acres of land in Raybrook, in the Adirondacks, to the state hospital commission the first actual step has been taken toward the establishment of a state sanatorium for the treatment of incipient tuberculosis. The property was purchased for $75,000. Raybrook is about five miles from the village of Saranac Lake. The sanatorium will consist of one large building with rooms for 100 patients.

To Fight Contagious Diseases.—The plans of the Department of Health of New York City for the betterment of conditions as regards contagious diseases, include an enlargement of the contagious disease hospital on East Sixteenth Street and the erection of a large disinfecting plant; a contagious

disease hospital and disinfecting plant in Harlem; one in the Bronx; one in Queens and one in Richmond; the securing of a new hospital boat and the establishment of a general health department farm.

Instructions to Summer Corps of Physicians.—The New York Health Department has issued a very excellent circular of instructions to its summer corps of physicians. The method of inspection is detailed. The house is inspected, halls, stairs, yards, cellars, roofs and water tanks are examined and minor nuisances abated. Each apartment is examined, minor nuisances abated and medical service offered to the sick, care being taken to studiously avoid those who are able to employ a physician. Instruction should be given to mothers concerning the feeding and general care of infants. Reports are to be made of measles, scarlet fever, diphtheria, tuberculosis, smallpox and varicella. Scarlet fever, diphtheria and smallpox patients should be removed to the proper hospital. Cases of destitution are to be reported to the Bureau of Charities. Tickets to St. John's Guild excursions are to be given out with discrimination. Sterilized milk tickets are provided. Directions are given where to apply for free ice. Inspectors are expected to vaccinate whenever requested and to urge re-vaccination.

Prevention of Tuberculosis.—The Charity Organization Society of the City of New York has issued an appeal for not less than $10,000 for the expenses of its committee on the prevention of tuberculosis. The work of the committee includes:

1. Research into the social, as distinct from the medical aspects of tuberculosis; for example, into the relations between the disease and overcrowding, infected tenements and unhealthy occupations, and also into the influence of improved diet and hygienic living upon recovery.
2. The publication of leaflets and pamphlets, the giving of lectures and the promulgation in every possible way of the fact that tuberculosis is a communicable and preventable disease; the widest distribution of the results of scientific research in this field, and of the results of modern treatment both in sanatoria and at home.
3. The encouragement of movements for suitable public and private sanatoria both for advanced and for incipient cases; for adults and for children; for free care and also for the care of those who can pay moderate fees.
4. The relief of indigent consumptives by the provision of suitable food and medicines, by the payment of rent when this is necsary to secure adequate light and air, and by transportation and maintenance at a distance when in the judgment of the committee this is essential.

Contributions should be sent to the Charity Organization Society, 105 E. 22d Street, New York City.

PENNSYLVANIA.

Philadelphia.

Personal.—Dr. James M. Anders is now in Europe.——Dr. D. Braden Kyle and wife are summering in Alaska.——Dr. Clement Biddle, U. S. Navy, will spend a part of the summer at Narragansett.——Dr. and Mrs. Ralph W. Seiss are spending their vacation in Colorado.——Drs. G. Henry Bickley and N. D. Phillips have sailed for Liverpool.

Contagious Disease Hospital Ordinances Vetoed.—Ordinances passed by city councils for the purchase of Petty's Island and of Cannon Ball Farm as sites for municipal hospitals have both been vetoed by the mayor. The chief reasons given by the mayor for his disapproval are that the former is in the jurisdiction of New Jersey and that the character and location of the latter render it undesirable for municipal hospital purposes.

New Jefferson Medical College Hospital.—Plans for the proposed new building of the Jefferson Medical College Hospital are a prominent feature of the annual report of that institution. The summary of the year's work shows a grand total of 94,004 cases cared for. Of these 91,963 were treated in the dispensaries, 2041 in the wards. There were 1491 patients cured in the wards, 280 improved, and 100 deaths. Much excellent skiagraphic and pathologic work has been done in the institution.

GENERAL.

The latest cholera report states that the disease is subsiding in Luzon and quarantine is being relaxed in certain portions where the failure of the natives to coöperate makes the quarantine of little effect. The Army is said to be in little danger so long as the men use proper care about their food and drinking water.

Payment of Physicians Who Attended President McKinley.—Our Buffalo correspondent states that he has received definite and convincing proof that the physicians who attended McKinley have been paid. It is a state secret what is the remuneration of each. Of the surgeons Drs. Mann and Mynter received the largest fees, but just what each received may never be made public. It is even asserted that one physician does not know what exact amount was paid to the other.

Chicago the Healthiest City in 1901.—The Marine Hospital Service has compiled the official reports for last year from 1435 cities and towns having a population of 1000 or more. Chicago has the lowest death rate of the large cities, 13.88 per 1000. Other large cities follow in this order: St. Louis, 17.67; Philadelphia, 18.27; Cincinnati, 18.88; San Francisco, 19.34; Boston, 19.70; New York, 20; Baltimore, 20.23; Washington, 21.14, and New Orleans, 21.44. The most unhealthy large city in the United States was Charleston, S. C., death rate 29.11. The town of Ellsworth, Wis., population 1500, was the healthiest place in the United States, only two persons in the town dying. The middle Western states had a far better health record than those of the East and the far Western better, as a rule, than the middle Western.

Smallpox.

DISTRICT OF COLUMBIA: Four cases are now under treatment in the hospital. Two new cases have occurred and three patients have been discharged.

ILLINOIS: Smallpox has been reported to the State Board of Health since July 20, from eight places, representing a total of about 50 cases.

INDIANA: For the first six months, smallpox cases were reported as follows: January, 462 cases in 31 counties, with 5 deaths; February, 596 cases in 34 counties, with 5 deaths; March, 832 cases in 38 counties, with 2 deaths; April, 878 cases in 55 counties, with 6 deaths; May, 892 cases in 60 counties, with 2 deaths, and June, 570 cases in 57 counties with 2 death. In all, 4230 cases occurred with 20 deaths.——Kokomo has 33 cases, and the disease is reported from Cassville, Sharpsville, Greentown and Monroe township.

MARYLAND: A case of smallpox was found in Baltimore, July 25, in a colored woman, who is thought to have contracted it outside, as she had been in the city only ten days. She was promptly sent to quarantine, the other inmates vaccinated and the premises fumigated.

MICHIGAN: Smallpox was reported at 47 localities in the state during the past week.

OHIO: Springfield has 14 cases with more than 50 people under quarantine.——The spread of smallpox so far as it lies within the power of the health board will be checked in Toledo. The board has not only rigidly enforced strict quarantine measures, but has ordered a thorough investigation to be made wherever the disease is thought liable to break out, because of unsanitary conditions and lack of proper facilities to ward off its appearance.

PENNSYLVANIA: Since the first of the year there have been 302 cases of smallpox in Pittsburg, and in that number there have been but 18 deaths. There have been 198 smallpox patients discharged from the municipal hospital, and there are at the present time 86 patients in that institution being treated for the disease.

UTAH: Five new cases were reported last week in Salt Lake City, and one patient was discharged, leaving ten cases still under treatment, four more than in the preceding week.

VIRGINIA: At Stonega 150 cases of smallpox are reported. Stonega is in the center of the coke region, and many ovens have been shut down.

CANADA: Dr. Patterson, Winnipeg, has returned to the city after three weeks' absence in the territories, where he has been attending to the precautions against the spread of smallpox. He visited Buck Lake, the Lepine district, and from there went across to Prince Albert. The smallpox in the territories has been among the halfbreeds entirely. The white people have been free from it owing to their more careful observance of the precautions in being vaccinated. The Indians are also fairly free of the disease and are better than the Metis element, as they dread the disease and will not try to escape vaccination.——Smallpox is rapidly dying out in Montreal. At the present time there are only 8 cases in the hospital and only 4 houses under quarantine. The health department expects that the hospital will be closed in a couple of weeks.——The Provincial Board of Health of Quebec has issued a notice to the proprietors of shanties in lumber camps requiring them to get certificates of vaccination from all men they may employ in the future.

CANADA.

Children's Hospital, Toronto, House Staff.—Drs. Wright, Graham and Waters have been appointed house physicians to this hospital for 1902-1903.

Infant Mortality in Montreal.—During the week ending July 19 no less than 108 babies died in Montreal. This was an

increase on the number in the previous week. The total deaths in the city numbered 167.

House Surgeons at Western Hospital, Montreal.—Drs. Dorion and Walker have been appointed house surgeons at the Montreal Western Hospital to succeed Drs. Cowley and McGregor, who have left for England.

Toronto General Hospital House Staff.—The following have been appointed to the house staff of the Toronto General Hospital for 1902-3: Drs. R. A. Martin, J. D. Chisholm, T. R. McCollum, A. B. Rutherford, P. W. Saunders, C. R. Elliott, S. Johnson, R. N. Kyles, W. H. Lowry, and R. Parsons; alternates, D. R. Lancaster, G. Davies, S. J. Farrell and G. B. Jamieson.

Lunatics in Canada.—According to a bulletin issued by the Census Department at Ottawa on July 26 there are 16,495 people of unsound mind in the total population of the Dominion of Canada. There are 6174 deaf and dumb and 3279 blind. Of the total infirm 13,929 are males and 12,019 females. Ten years ago the record was 13,356 of unsound mind, 4819 deaf and dumb, and 3368 blind. Of the total number of infirm persons 5269 have been so afflicted from childhood.

Physicians Elected to the Ontario Legislature.—At the recent provincial elections held in Ontario the following members of the profession were elected members of the legislature: Drs. J. O. Reaume to represent North Essex; David Jamieson, South Grey; E. Jessop, Lincoln; F. S. Snider, North Norfolk; W. A. Willoughby, East Northumberland; R. A. Pyne, Registrar of the Ontario Medical Council, East Toronto; Beattie Nesbitt, formerly editor of the *Dominion Medical Monthly*, North Toronto; H. G. Lackner, North Waterloo; G. A. Routledge, East Middlesex; S. Bridgland, Muskoka; M. James, East Nipissing and M. Currie, Prince Edward County.

Personal.—Dr. O. W. Colbeck, late of the Toronto Western Hospital house staff, has been appointed house physician to the Mount Airy Sanitarium for Children, Baltimore.——Dr. E. R. Secord of Brantford, Ont., who went to Italy some time ago for the benefit of his health, has returned to his practice, bringing with him the Fellowship of the Edinburgh Obstetric Society. ——Dr. Ferdinand Fleury has been reappointed medical superintendent of the Notre Dame Hospital, Montreal.——Dr. Arthman A. Bruere has resigned the chair of physiology in Bishop's Medical College, Montreal.——Dr. J. L. Todd of McGill University will proceed to Senegambia to study the animal parasite, trypanosoma, and its connection with disease in the human being. He is sent out by the Liverpool School of Tropical Medicine, and is associated with Dr. J. E. Dutton of that school.

FOREIGN.

Cholera in Russia.—Cholera is epidemic in Manchuria and has now broken out in Astrakhan, European Russia.

French Congress of Surgery Next Fall.—The fifteenth annual French congress of surgery will be held at Paris, Oct. 20, 1902.

Cholera in China.—Cholera rages in all the towns along the Kweilin River. Over 10,000 have died in the territory around Kweilam. The disease seems on the increase in the East.

Phocas to Succeed Galvanis at Athens.—Professor Phocas of Lille has been elected to the chair of surgery left vacant by the death of Galvanis. He is a native Greek who has won fame in his adopted country.

Third International Congress of Medical Examiners.—Dr. Siredey of Paris, 80 rue Taitbout, is the secretary general, and P. Masson, 120 boul. St. Germain, treasurer, of this congress, which will meet in Paris during May, 1903. Brouardel will preside.

Post-Graduate Course in Physical and Dietetic Methods of Treatment.—The course inaugurated last year at Baden Baden, Germany, on these lines proved so popular that it is to be repeated this year, commencing October 13. It is completed in about eight days.

Tragic Death of a Spanish Physician.—The local medical society of Barcelona, Spain, was celebrating, July 10, the anniversary of its foundation, and toasting Professor B. Robert, to whose efforts it owed its inception and prosperous career. He rose to reply, but after a few words fell dead.

Cholera in Egypt.—An outbreak of cholera is announced at Mousha, Egypt, 107 cases and 50 deaths being reported in five days. The disease is said to have been brought by pilgrims returning from Mecca. In Cairo, 124 cases have been reported. The epidemic is virulent and is one of the most severe experienced for a long time.

Death of the Marques de Guadalerzas.—Royalty, the press and medical organizations and institutions of all kinds shared in doing honor to the obsequies of the aged director of *El Siglo Medico* at Madrid, July 9. He had been connected with nearly every form of medical, hygienic and sanitary improvement in the capital since early in the last century.

Swedish National Medical Congress.—*Hygiea* for July publishes the particulars in regard to the eleventh Swedish medical congress, to convene at Göteborg, August 21 to 23. The principal subject to be discussed is the medical and surgical aspects of the tendency to cholelithiasis. Dr. Buhre is secretary. Address, Läkarmötet, Jakobsgatan 19, Stockholm.

The Centennial of Bichat.—The French Society for the Study of the History of Medicine celebrated, July 22, the centennial of the death of Bichat, the famous French anatomist. The ceremonies included a visit to his tomb, the unveiling of a memorial tablet on the house he occupied, and an address at the Faculté de Médecine. A portrait medal was also distributed among the subscribers.

Official International Anti-Tuberculosis Committee.—A central international bureau was organized at the Tuberculosis Congress on the instigation of the German Centralcomité für Lungenheilstätten. The first conference of the members has been called for October 22 to 26, at Berlin, when those most prominently engaged in the crusade against tuberculosis will assemble from America, England, France, Russia and other countries.

Students in the Revolution in Colombia.—The last issue of the *Revista Medica de Bogota* contains an official decree from the Ministro de Instruccion Publica that persons who favor in any way the existing rebellion will be excluded from the higher educational privileges in the official schools and colleges. No one who has taken up arms against the government will be matriculated or allowed to enter the examinations or compete for scholarships.

Echoes of the Martinique Horror.—The French have a custom of sending a letter to their acquaintances on the death of a member of the family with the full name, titles, dates, etc., of the deceased. One of these letters "de faire part" has been received by the friends of Dr. Felix Marsan, ex-interne of the hospitals of Paris, formerly of Martinique. It contains the death notice of eighty-five members of his family who perished in the Martinique catastrophe, parents, grandparents, brothers, sisters, uncles, aunts and cousins.

The "Practical Year" in Germany.—The thirtieth annual business meeting of the physicians of Germany, the so-called *Aerztetag*, was held this year at Königsberg, with 163 delegates in attendance, representing 301 local associations with 19,000 members. This is the largest attendance ever reported. Rumpf of Bonn, for years at the head of the great Hamburg hospital, delivered an address on the subject of the responsibility of the physicians in charge of hospitals in regard to the new-fledged medical men now sent to them under the provisions of the new law requiring a "practical year" in some hospital of all candidates for the degree of medicine. He concluded by urging training in the ethical aspects of the profession, and also that the practical year should not be devoted to the acquirement of a specialty but should be for training in general medicine. It is especially important from this point of view that the hospitals should be equipped with the latest and most improved diagnostic appliances.

The Campaign Against Charlatans in Germany.—The German authorities have recently decreed that all unqualified persons who claim to treat disease must obtain a license from the local police and medical authorities. Nature healers and their ilk must apply to the local medical officer and inform him of their intention to settle in his district, with particulars in regard to their previous career, etc., before they are entitled to permission to practice. The decree also states that in view of the damages inflicted on the public in health and purse by the practices of charlatans, they are henceforth prohibited from advertising their medicines or methods in an extravagant style. A fine of not more than $15 or corresponding imprisonment will be imposed for infringement of these regulations. A suit has recently been decided in Berlin showing that the authorities are really in earnest in these attempts to control charlatans. A certain quack advertised in the Berlin *Morgenpost* and in the *Lokalanzeiger*, that he would cure under guarantee all cases of cutaneous, urinary, bladder, kidney and abdominal affections and women's diseases. The charlatan and the editors of the newspapers were fined, the first 50 and the others 5 marks, and the upper courts confirmed this decision. The better class of journals will henceforth be more cautious

in accepting extravagant advertisements of this nature, but it is possible that the editorial columns of the yellow journals may be put at their disposal and the present law can not reach the charlatans there. The cable also brings us word that Schweninger has been deposed from his prominent position in academic circles which he owed entirely to his political influence. As THE JOURNAL has previously mentioned, he is a man of no scientific attainments, but was Bismarck's medical adviser, and has been in charge of the large hospital of Gross Lichterfeld near Berlin, drawing a fine salary. To one who has been watching the course of events it seems as if the recent invasion of Germany by Eddyism has been the last straw that overcame the inertia of the authorities in regard to charlatanism.

Correspondence.

An Acknowledgment of Priority.

CHICAGO, July 25, 1902.

To the Editor:—Since writing my article, describing an improved method of examining the female bladder, I have found that Dr. William Pryor of New York read a paper before the New York County Medical Association, Jan. 21, 1901, in which he advocated the posture which I have recommended as being most advantageous in the examination of the female bladder, and which I have obtained by a slight modification of the Boldt table. I was first convinced of the value of the posture on witnessing Dr. Kelly's demonstration of his method of examining the bladder in the genupectoral position, before the British Medical Association in Montreal, and I immediately afterward adopted the Boldt table to obtain the elevated lithotomy posture, in the Royal Victoria Hospital. I am glad to acknowledge Dr. Pryor's claim to priority in this matter. Working independently, we arrived at the same conclusions, and he published his paper first. Yours truly,

J. CLARENCE WEBSTER.

Harmony Between Dentist and Physician.

NEW YORK CITY, July 24, 1902.

To the Editor:—Much has been said from time to time regarding the ethics of the profession. Many articles have appeared in the medical journals on the same topic. Many minds, both lay and professional, have advanced theories relative to ethics, whereby the best interests of the community at large might be served, and the practice of medicine conducted along the most harmonious lines, with good will to all and malice toward none. The Code of Ethics of the American Medical Association has been more or less closely adhered to by both very eminent practitioners and others, with no dire calamity befalling the human family. Still, the American Medical Association is contemplating a revision of the code, which, I suppose, only marks more forcibly the march of progress. Yet, in spite of the moderate amount of harmony which prevails, queries are constantly given regarding ethical points, ideas are interchanged and discussions take place pro and con on the subject. The general practitioner complains of the specialist treading on his toes, and vice versa. The dentist even infringes upon the physician's province, and again vice versa.

Dr. Peck of Chicago recommends the study of physical diagnosis as a useful adjunct to the dental student's education. Dr. Dunlop of the same city disagrees with him, giving his reasons for so doing. Regarding Dr. Dunlop's letter (THE JOURNAL of July 19) I agree with him most heartily that there is hardly a case where the dentist is justified in using what slight medical knowledge he may have to advise his patient. That is more properly the province of the physician. Although the dentist may have received instruction along certain medical lines, i. e., medical diagnosis, not having the constant practice along these lines that the physician is assumed to have, he lacks the technique which is necessary to arrive at a satisfactory diagnosis or conclusion.

But, on the other hand, I do not wish to be represented as having a bigoted view of the matter. A dentist has certainly as much right, and also ability, to advise his patients medically as the physician has to advise his patients dentally. Many physicians do this, often very erroneously, too, when it is their duty to tell the patient to seek the dentist. They will give advice during dentition which shows deplorable ignorance and which sometimes leads to permanent disfigurement of the patient. They will advise to have certain teeth extracted, when they should be filled and saved. They will advise extractions of a diseased tooth when contiguous oral conditions positively forbid it. I have in mind a case now, where a case of severe pericementitis with extensive inflammation over side of face and into middle ear, was diagnosed by several specialists (?) as a condition requiring immediate exploratory operation, in spite of the fact that the patient's dentist had diagnosed as pericementitis and was treating for the same, the patient escaping operation only by dentist standing his ground and actually forbidding it. Such instances are more or less frequent, and serve to illustrate the fact that physicians as well as dentists may step outside their province and exceed their authority.

There should be no breach between physicians and dentists, even on this account, but their aim should be to work together in perfect harmony. Let not one faction be pulling this way and another faction that way, but work together for the good of the greater number. I agree with Dr. Peck that a dentist's education should be broader, and let it remain for his own conscience to decide as to whether he is justly using his knowledge. Occasionally cases may present themselves to the dentist which, from the very nature of things, require some medical knowledge, and if he has it he should use it, and rightly, too. In many instances the patient's regular physician is not convenient, or patients may be too poor to pay a physician's fee or in other cases still, they may have no regular physician. In such cases the dentist is justified in using his medical knowledge for the good of his patient. To conclude, it is reasonable to assume that if the spirit and not the letter of the Code of Ethics be at all times observed pleasant and cordial relations would previal. DAVID EDWARD HOAG, M.D.

State Boards of Registration.

The Right of a Board to Determine the "Good Standing" of a Medical College Sustained.—Millard F. Bailey, a graduate of the Medical Department of the University of Tennessee, 1894, made application to the Illinois State Board of Health for a certificate based on his diploma. As the board had determined the college not in "good standing" during the year named on account of its failure to comply with the requirements set forth in the Schedule of Minimum Requirements published by the State Board of Health, the application was declined. Dr. Bailey thereon sought to obtain relief from the courts, and as a result a peremptory writ of mandamus was ordered by the Superior Court of Cook County directing the State Board of Health to issue a license to Dr. Bailey. An appeal was taken by the board to the Appellate Court of the First District of Illinois, which body has just reversed the judgment of the Superior Court, which is termed by the Appellate Court clearly erroneous. In accordance with the opinion of the court, the State Board of Health is possessed of discretionary power to determine whether a medical college is in "good standing" and its action is not subject to review by mandamus proceedings. "Mandamus will not lie to compel the performance of acts or duties which necessarily call for the exercise of judgment and discretion by an officer or body at whose hands their performance is required, unless it is made clearly to appear that there has been abuse of discretion by the officer or body." The judgment of the Appellate Court is strictly in accordance with the views expressed by the Supreme Court in the case of the People vs. Dental Examiners, 110 Ill., 180, and Dental Examiners vs. People, 123 Ill., 227. In the former case the Supreme Court held that the action of the board was to be predicated on the existence of the requisite facts, and as no other tribunal is authorized to investigate these facts, it is necessary that the board must do so.

The **North Carolina Board** of Medical Examiners, at Wilmington, June 4 to 11, examined 86 candidates for license to practice medicine, of whom 72 passed and 14 failed. Seventy questions were asked on 11 subjects and a grade of 80 per cent. was required in order to pass. The following table is supplied by Dr. J. Howell Way, secretary, Waynesville.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	R.	University of Maryland	1894	85 3-7
2	R.	University of Michigan	1901	86 6-7
3	R.	University of Maryland	1902	84 6-7
4	R.	North Carolina Medical College	1902	85 5-7
5	R.	U. S. Grant University	1900	84 3-7
6	R.	University of Maryland	1902	90 4-7
7	R.	North Carolina Medical College	1902	85 6-7
8	R.	Jefferson Medical College	1902	87 1-7
9	R.	University of Michigan	1901	86 1-7
10	R.	Woman's Med. Coll., N. Y. Infirmary	1891	87 2-7
11	R.	University of Colorado	1894	82 5-7
12	R.	University of Nashville	1901	80 4-7
13	R.	North Carolina Medical College	1902	88 3-7
14	R.	South Carolina Medical College	1894	80 4-7
16	R.	University of Pennsylvania	1901	88 6-7
17	R.	U. S. Grant University	1900	80 6-7
18	R.	Jefferson Medical College	1902	85 1-7
19	R.	College of P. and S., Atlanta, Ga.	1902	84 1-7
21	R.	North Carolina Medical College	1902	88 -
22	R.	North Carolina Medical College	1902	90 5-7
23	R.	North Carolina Medical College	1902	90 4-7
24	R.	Medical College of Virginia	1901	84 3-7
26	R.	North Carolina Medical College	1902	80 1-7
27	R.	Medical College of Virginia	1901	81 1-7
29	R.	Medical College of Virginia	1901	82 6-7
32	R.	North Carolina Medical College	1901	84 2-7
33	R.	North Carolina Medical College	1902	85 3-7
34	R.	University and Bellevue, N. Y.	1902	89 2-7
35	R.	North Carolina Medical College	1902	88 3-7
36	R.	North Carolina Medical College	1902	82 6-7
37	R.	University of Maryland	1899	80 4-7
39	R.	Leonard Medical College	1901	85 1-7
40	R.	Leonard Medical College	1902	82 5-7
41	R.	Leonard Medical College	1901	84 4-7
42	R.	Leonard Medical College	1901	82 6-7
43	R.	Leonard Medical College	1901	80 2-7
46	R.	University of Kentucky	1901	88
47	R.	University of Maryland	1902	88 1-7
48	R.	University of Georgia	1902	90 1-7
49	R.	University of Georgia	1902	85 2-7
50	R.	University of Maryland	1902	88 6-7
51	R.	Southern Med. College of Atlanta	1897	80
53	R.	College of P. and S., Atlanta	1902	85 1-7
54	R.	Bellevue Hospital Medical College	1895	92 5-7
55	R.	University of Maryland	1902	83
56	R.	Tulane University of Louisiana	1901	88
57	R.	North Carolina Medical College	1902	81 2-7
59	R.	University of Maryland	1902	83 6-7
60	R.	College of P. and S., Baltimore	1902	80 2-7
61	R.	University of the South	1901	84 1-7
62	R.	University of Baltimore	1902	83
63	R.	U. S. Grant University	1897	80
64	R.	Maryland Medical College	1901	80 3-7
65	R.	University of Louisville	1900	80
67	R.	Jefferson Medical College	1895	84 6-7
68	R.	College of P. and S., New York	1871	82 3-7
69	R.	Medical College of Virginia	1901	88
71	R.	North Carolina Medical College	1902	89 6-7
72	R.	College of P. and S., Baltimore	1900	86
74	R.	University of Maryland	1901	80 4-7
75	R.	University of Maryland	1902	91 5-7
76	R.	University of Maryland	1902	80
77	R.	University of Maryland	1902	84 1-7
78	R.	University of Maryland	1902	83 5-7
79	R.	North Carolina Medical College	1902	84
80	R.	Louisville Medical College	1896	81 6-7
81	R.	University of Nashville	1901	84 1-7
82	R.	Dartmouth Medical College	1859	80
83	R.	College of P. and S., St. Louis	1901	80
84	R.	Johns Hopkins Medical College	1902	90 5-7
85	R.	University of Georgia	1891	82 1-7
86	R.	University of Virginia	1902	87 1-7

FAILED.

15	R.	Tennessee Medical College	1902	75 6-7
20	R.	College of P. and S., Atlanta, Ga.	1902	75 3-7
25	R.	Medical College of Virginia	1900	77 2-7
28	R.	Atlanta Medical College	1895	69 2-7
30	R.	North Carolina Medical College	1898	77 6-7
31	R.	Memphis Hospital Coll. of Medicine	1902	74 2-7
38	R.	Howard University	1900	75 2-7
44	R.	Leonard Medical College	1901	76 1-7
45	R.	Leonard Medical College	1902	75 5-7
52	R.	U. S. Grant University	1900	75 4-7
58	R.	U. S. Grant University	1900	74 4-7
66	R.	University of Baltimore	1900	70
70	R.	Baltimore Medical College	1891	55 6-7
73	R.	North Carolina Medical College	1902	77 1-7

The New Illinois Requirements.—Dr. George W. Webster, president of the Illinois State Board of Health, has sent THE JOURNAL a copy of the Schedule of Minimum Requirements adopted by the Illinois State Board of Health, July 8, 1902. He makes the following comments thereon:

"While the Committee on Administration of the Medical Practice Act fully realizes that these rules are not ideal, they are the best we could do under the existing conditions and laws. For example, in the second paragraph, the requirement is simply 'A High School Diploma.' The majority of high schools require a four years' course, but the committee found that the University of Illinois recognizes a number of three-year high schools and it was questionable whether it would be good taste or good policy to require a standard higher than that demanded by our own State University. Then, too, while it is my opinion that the scientific or English course is preferable to the classical course as given in the high schools as a foundation for the study of medicine, nevertheless we could not reasonably demand that all high school students take the scientific course. I do recommend it, however. I believe that making a high school diploma or better the minimum entrance requirement and making it necessary to present the documentary evidence of these attainments to the Board, will do more to elevate and improve the standard of medical education in Illinois than adding a fifth year to the medical course."

We print below the schedule in full:

SCHEDULE OF MINIMUM REQUIREMENTS FOR MEDICAL COLLEGES TO BE DETERMINED IN "GOOD STANDING."

Adopted by the Illinois State Board of Health, July 8, 1902.—In Force Jan. 1, 1903.

CONDITIONS OF ADMISSION TO LECTURE COURSES.

1. Creditable certificates of good moral character signed by two physicians of good standing in the state in which the applicant last resided.

2. As evidence of preliminary education, as a minimum requirement, a diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly organized high school, or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or superintendent of public schools, of having successfully passed an examination in all the several branches usually embraced in the curriculum of a four years' high school course. The examination shall not be conducted by any member of the faculty of the medical college.

The Illinois State Board of Health will require each applicant for a State certificate to present the documentary evidence of his preliminary education, together with his medical diploma when taking the examination of the board.

The conditions above set forth will govern in the case of all persons admitted to the freshman class of a college, on or after Jan. 1, 1903.

ADVANCED STANDING.

Applicants holding the degree of A.B. or B.S., or an equivalent degree from a regularly established college of arts or science which requires an attendance of three or more years as an essential to graduation, may be given credit for work done in the branches of the medical curriculum of the first year and may be advanced to the sophomore year of a four years' medical course, on condition that they comply with the entrance requirements of this board and that they subsequently complete the work of the freshman year and that the courses already taken shall not be below the standard required by this board.

The same advanced standing may be allowed to applicants presenting a degree in dental surgery from a recognized college of dentistry, or documentary evidence of having completed in a reputable university, college of arts or science, the major part of the work usually embraced in the curriculum of the freshman course of a recognized medical school, provided, 1, that all such students shall have complied with the entrance requirements of the Illinois State Board of Health; 2, that they shall subsequently complete the work of the freshman year, and 3, that the work of the said freshman year shall not be below the standard of work required by this board.

Advanced standing to the senior year may be granted to non-graduate licentiates of this and of other boards.

No such advanced standing shall be allowed until after the applicant shall have either received his liberal degree or performed work as indicated above, and not until three months after the completion of the said work.

These requirements for advanced standing will govern in the case of all persons admitted to the sophomore class of a medical college on or after Jan. 1, 1903, and can be made operative prior to that time.

Graduates of medical colleges recognized at any time by the Illinois State Board of Health may be admitted to any class without examination.

Students of said colleges who possess certificates of attendance and of successful examinations, can enter without examination the class immediately following that previously attended. The student shall be required to pass an examination in all branches in which he has been found deficient. Students who have attended one or more full courses in colleges not fully recognized by this board may be granted advanced standing in accordance with such attendance, on complying with the entrance requirements set forth in the "Conditions of Admission to Lecture Courses," and passing all examinations and performing all laboratory work of the classes below that which they enter. Graduates or students of colleges to which no recognition is given by the Illinois State Board of Health can be granted no advanced standing whatsoever.

LENGTH, NUMBER AND CHARACTER OF COURSES OF LECTURES.

The college shall have a four years' course of instruction, consisting of four terms, extending over a period of four calendar years, and the minimum time between the commencement of the work of the freshman year and the ending of the work of the senior year, on which all students are required to be in attendance, shall be not

less than forty months. No two terms begun after Jan. 1, 1903, shall commence and end within any consecutive sixteen months.

The time occupied in each regular term, begun on or after Jan. 1, 1903, shall be not less than seven months or thirty weeks, and each such term shall consist of not less than eight hundred hours of work.

The branches of medicine to be included in the course of instruction shall be at least as follows: 1, anatomy; 2, physiology; 3, chemistry; 4, materia medica and therapeutics; 5, theory and practice of medicine; 6, pathology and bacteriology; 7, surgery; 8, obstetrics; 9, gynecology; 10, hygiene; 11, medical jurisprudence; 12, ophthalmology, otology, dermatology, orthopedic surgery, neurology. Two questions in each and rated as one branch.

ATTENDANCE AND EXAMINATIONS OR QUIZZES.

1. Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the sickness of the student or his immediate family, such absence not to exceed 20 per cent. of the course.

DISSECTIONS, CLINICS AND HOSPITAL ATTENDANCE.

1. Each student must have dissected at least the lateral half of a human cadaver.

2. He shall have at least two terms of clinical and hospital instruction.

INSTRUCTION.

The college must have a sufficient and competent corps of instructors, and facilities for teaching, dissections, ambulatory and hospital clinics which obtain in the majority of medical colleges in the United States.

GRADUATION.

No student shall be graduated by any medical college in good standing with the Illinois State Board of Health who has not completed four full terms of lectures as presented by the rules of the said board (certain persons to whom advanced standing is allowed excepted) and has complied with the requirements of the said college, as set forth in the published announcement of the college, and has completed in the college by which his diploma is granted, a continuous course of lectures in the senior year of at least seven months in duration.

FURTHER CONDITIONS OF RECOGNITION OF MEDICAL COLLEGES.

RULE 1.—Only regularly conducted and legally chartered medical colleges which conform to the conditions of admission to lecture courses, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, as set forth in the Schedule of Minimum Requirements adopted by the Illinois State Board of Health, and the other requirements of a medical education which obtain as the practice of a majority of the established medical colleges in the United States shall be considered medical institutions in good standing according to the purpose of the Act to Regulate the Practice of Medicine in the State of Illinois, approved April 24, 1899.

RULE 2.—No medical college can be held to be in good standing until it has established its claim to such standing by an active existence of not less than four years, and then only on compliance with the term of Rule 1. PROVIDED, That colleges which after a personal investigation made by a committee of the board, are shown to comply with the Schedule of Minimum Requirements, and to possess a sufficient and competent corps of instructors, all legally qualified physicians, and the necessary facilities for teaching, may, at the discretion of the board, be granted full recognition during the first year of existence.

NOTE.

All colleges in "good standing" with the Illinois State Board of Health, will be required to conform to the Schedule of Minimum Requirements in all regular courses commencing on or after Jan. 1, 1903.

Advanced standing to the sophomore, junior or senior classes may be granted to students who have completed courses in the freshman sophomore or junior years, prior to June 30, 1903, in accordance with the Schedule of Minimum Requirements heretofore adopted by the Illinois State Board of Health.

All rules and regulations governing medical colleges which have been heretofore adopted by the Illinois State Board of Health, will stand repealed on Dec. 31, 1902.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CONGENITAL GIANTISM.

LAWRENCE, KAN., July 23, 1902.

To the Editor:—I have sought in vain through medical literature for satisfactory information concerning a case in which I am deeply interested. Will some reader of THE JOURNAL kindly throw additional light on the subject? The case is that of a girl now 13 years of age, and rapidly developing, with congenital unilateral giantism on the right side of her body. She now weighs one hundred pounds, is of normal height, of fairly good health and fully the average mental capacity. The right side of her body throughout, with the exception of the head, in which no deformity can be detected, is considerably larger and fatter than the right. The leg is nearly two inches longer than the other and the foot now requires a number six shoe. She is right-handed and has full control of bodily movement and functions. The deformity, however, is becoming more and more apparent, and gives an ungraceful carriage to the body, though I can not see that there is an undue development of the enlarged side as compared with the other. I find records of several such cases in children, but none of adults. What is the prognosis? W. N.

Book Notices.

VISUAL ECONOMICS, with Rules for Estimation of the Earning Ability After Injuries to the Eyes. By H. Magnus, Med. Dr. of Breslau, Germany, Professor of Ophthalmology in the University of Breslau, etc., and H. V. Würdemann, M.D., of Milwaukee, Wis., U. S. A., Professor of Ophthalmology to the Milwaukee Medical College, etc. For the Use of the Medical and Legal Professions, Business Corporations and Insurance Officials. Milwaukee, Wis.: C. Porth. 1902.

Under the above title Würdemann has given us a work very original, scientific and extremely practical, perhaps one of the most original works that has come before ophthalmologists for many years. Würdemann's attention was drawn to this subject by a production of H. Magnus, but that work has been completely rewritten and a vast amount of new material added. Essays on the subject of the medicolegal bearing of visual economics are extremely rare in English ophthalmologic literature. The volume consists of 144 pages splendidly illustrated and clearly written. It is divided into four parts as follows: The first part discusses "The Legal Status of the Physician in Relation to Accident Insurance and Indemnity for Accidents, etc."; in Part II the author takes up "The Special Consideration of Various Ocular Injuries and Visual Defects"; in Part III he considers "The Estimation of the Pecuniary Losses to the Individual by Reason of Visual Imperfections," and in Part IV, "Tables for Estimation of the Different Forms of Damage to the Visual Earning Ability." All these divisions give evidence of the most careful study; they are extremely scientific and at the same time useful from a practical standpoint. It has for a long time been extremely difficult for the expert on the stand to give a rational estimate of the damage done in injury to the eye as to the future earning capacity of the individual.

In this book will be found rules and formulæ so that the point above referred to can be worked out from a mathematical standpoint. Indeed, after most careful perusal of the work, we are of the opinion that it should be on the desk of every ophthalmologist, certainly every one whose occupation is chiefly taken up with corporations and who works in the region of machine shops. Not only physicians but claim agents, manufacturers, casualty insurance companies, will find it most useful in adjusting claims for injuries affecting the visual apparatus. It is somewhat unfortunate that a book containing such valuable information and which will necessarily be so extensively used should not have been more strongly bound.

PSYCHOLOGY, Normal and Morbid. By Charles A. Mercier, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital Medical School. Cloth. Pp. 518. Price, $5.00. London: The Macmillan Co. 1901.

This work originated, as the author indicates in his preface, in the conviction that there was needed a work on psychology treating more particularly than do the ordinary text-books of the abnormal mental activities. How far he has supplied the want will have to be judged by the individual reader who applies it to his experience and observation of these conditions. The idea, however, is a good one and Dr. Mercier is qualified for the task insomuch as he is a skilled alienist as well as a psychologist in the academic signification of the term. Necessarily a considerable portion of the work has only an indirect bearing on the problem suggested above. The first part of the book is taken up with a discussion of the theories and modes of reasoning, and it is only when the author has entered upon the subject of belief, probability, etc., that the direct applications of his physiologic views to morbid mentality appear. Here the alienist and physician will find suggestive matter though they may not always agree entirely with the author's views. Thus we cannot see how his theory of the intellectual origin of emotion is sustained even in the normal manifestations, and he admits himself that abnormally the intellectual element is not the primary one. There seems to us always, moreover, in such theories of memory as here offered too much use of analogies that will serve to illustrate but hardly explain. Dr. Mercier is, however, evidently not of the "new psychology" school, while he makes use of the nerves and nervous states, beyond a reference or two to Weber's law the book contains hardly a mention of any of the special data of the experimental psychologists. There are some obvious suggestions of the util-

ity of some of these data and methods in the elucidation of the phenomena of insanity and there has been at least a little work done in this direction. Still the omission is hardly a serious one and we have to thank Dr. Mercier for a treatise on psychology from a standpoint different from the usual text-books and one that in clearness of statement and general interest to the reader is above the average of works on this subject, however it may be estimated by psychologic specialists.

TEXT-BOOK OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English Edition. Translated from the Fourth German Edition by Florence A. Starling and Edited by Ernest H. Starling, M.D., F.R.S., Professor of Physiology in University College, London. Cloth. Pp. 470. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

This is a second edition translated from the fourth German edition of a work which, as the editor says, has had a great influence on physiologic thought both here and abroad. It is written in a style which makes a subject usually rather unattractive to the majority of medical readers actually and positively interesting. While we can not say how closely the translator has followed the German text, she has put it into attractive English. The great abundance of references and their dates show that the work has, in the main, been brought well up to include recent acquisitions on its subject. The author's ideas seem to be in accordance with what we believe to be the best thought on the subject at the present time and his views on the somewhat discussed question at the present time of the utility of alcohol for the human organism are such as can be endorsed by rational reformers and contain very little or nothing that could possibly be distorted in favor of the liquor interest. We note this more particularly since it is a German work that has had its full share of popularity in its own land. The editor in his preface says that although the conclusions drawn are occasionally those that would not commend themselves to the majority of physicians, he has thought it better "to indicate in a foot-note the existence of other ideas rather than interfere in any way with the vitalistic mode of thought which give to these lectures so much of their interest and individuality." These notes, indicated by square brackets, however, are few and far between. It does not seem to us that the author's vitalistic views are by any means so far out of accord with the best physiologic thought of the times. The fact that he was, as Dr. Starling says, a philosopher, mathematician and chemist before he was a physiologist has probably had much to do with his opinions in this regard. We bespeak for this translation a popularity which it certainly deserves.

THE ELEMENTS OF PHYSICAL CHEMISTRY. By Harry C. Jones, Associate Professor of Physical Chemistry in the Johns Hopkins University. Cloth. Pp. 565. Price, $4.00. New York: The Macmillan Co. 1902.

The physician of to-day, unless he has kept in touch with the trend of advance in chemistry, is puzzled to understand the references made in much recent literature on chemical, physiologic, pathologic and medical topics. Much less does he understand the discussions concerning osmosis, electrolytic dissociation, ions, the law of mass action, etc. Yet these questions are live ones and are destined to have an important bearing on medical theory and practice. Therefore, such books as the present, while presupposing considerable knowledge of physics and while containing much that could be omitted by the physician if he is studying the subject from the merely practical standpoint, are timely and valuable. Thoroughly scientific, carefully distinguishing between fact and theory, the work is a most reliable exposition of this new but already immense subject of physical chemistry. While not intended primarily for the physician it yet furnishes him a standard text-book for reference and study.

IL MEDICO PRACTICO. Del Dott. Carlo Muzio. Terza epizione Riffata del Nuovo Memoriale pei Medici practici. Cloth. Pp. 492. Milano: Ulrico Hoepli. 1902.

This little volume, the "Practicing Physician," which is a free translation of the Italian name, has gone through two editions in its own country since its first appearance in 1900. As the author states, he has not attempted to present to his colleagues a scientific work, but has simply wished to give a little handy reference volume to his brother practitioners. It covers a large field of subjects for which a ready pocket reference book may be of use, including poisons, visceral traumatisms, obstetric emergencies, various surgical conditions, dietetic tables, rules for disinfection, schemes for the examination of patients, methods of postmortems, dose lists, etc., adulterations of foods and certain legal matters which are of special use only to Italian physicians, such as matters of public hygiene, treatment of the insane, etc. With a little adaptation a book like this of its compass and size would be a very convenient little manual for American physicians.

PRACTICE OF MEDICINE. By Eminent Medical Specialists and Authorities. Edited by George Alexander Gibson, M.D., D.Sc., F.R.C.P. Ed., Physician to the Royal Infirmary, Edinburgh. Vols. I and II. Cloth. Pp. 1770. Price, $8.00. Philadelphia: J. B. Lippincott Co. 1901.

These two volumes of about 800 pages each are up to date, and the articles are in general well written. There is a preliminary discussion of general etiologic and pathologic problems that serves as a valuable introduction to the more practical part of the work. There is included in the body of the book what is not commonly found in works on practice, a discussion of diseases of the skin. From the list of contributors we select a few names to show that eminent men have aided in the production of what is a most valuable work on the practice of medicine: Ashby, Bradford, Mitchell Bruce, Brunton, Gowers, Jamieson, Kanthack, Manson, Taylor, White, Woodhead, are well-known names, and there are other writers whose contributions are as valuable as those of the men just named.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. Gynecology, Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School. With the Collaboration of William Healy, A.B., M.D. March, 1902. Cloth. Pp. 212. Price, $1.25. Chicago: The Year Book Publishers.

This present volume of the Practical Medicine Series critically covers the subject of gynecology as contained in the more recent additions to the literature. The reputation of the editor is sufficient guarantee of its reliability and completeness. The book is well illustrated, very complete in its references, and what is not of less importance, very satisfactorily indexed. Like the others of the series, of which this is by no means the least valuable, it is a most useful addition to the practitioner's library.

LA PELLAGRA. Storia—Eziologia-Pathogenesi Profilassi. Del Dott. G. Antonini. Con 2 Tavole Colorate. Cloth. Pp. 166. Milano: Ulrico Hoepli. 1902.

Pellagra is a disease which is hardly known in this country, though it has been reported in one or two instances on this continent. On the other hand, in Italy it is a very serious problem, and it may be that with closer observations we might find pellagrous complications in certain regions in this country. The larger part of the work is given up to the subject of general prophylaxis. The disease of maize, which seems to be its cause, is either unknown on this continent or the grain thus affected seldom or never comes into use, at least judging from the lack of results, but this does not destroy the interest in the subject to one who reads the Italian language.

MANUALE DI CHIMICA LEGALE (Tossicologia). Prof. Cav. Nicola Valentini, Chimico Igienista. Cloth. Pp. 243. Milano: Ulrico Hoepli. 1902.

This work is the outcome of many years' experience in the analyses of poisons in the human cadaver and as such should be of value for reference. Its brevity, of course, makes it of value only as a handbook, but undoubtedly it contains matter that would make it useful to the analytic chemist, even though other works are at hand.

Married.

NATHAN C. DOANE, M.D., to Miss Lula Doane, both of Thorn Grove, Tenn., July 12.

ALECK F. HUTCHINSON, M.D., to Miss Lulu Allerton, both of Nashville, Mich., July 8.

ROBERT L. FRISBIE, M.D., Lincoln, Ill., to Miss Moore of Baileyville, Ill., July 17.

GEORGE ELLIOTT, M.D., Kansas City, Kans., to Miss Mary E. Inman, of Buffalo, Wyo., July 16.

ALBERT M. ROWLEY, M.D., Hartford, Conn., to Miss Carlotta Munoz of Cranford, N. J., July 17.

LEROY JONES, M.D., Hoopeston, Ill., to Miss Margaret Vanness Phelps of Ann Arbor, Mich., July 16.

GEORGE W. SMITH, M.D., Pennsboro, W. Va., to Emma Florence Stir, M.D., of Parkersburg, W. Va., July 15.

WILLIAM EMORY VAN ZANT, M.D., Mandeville, La., to Miss Anna Seyman Hawkins of New Orleans, July 16.

WILLIAM BRINTON PERRY, M.D., Baltimore, to Miss Clara Louise Lipps, West Arlington, Baltimore, July 15.

JAMES E. BOOTH, M.D., Petersburg, Va., to Miss Nancy Nash Elliott of Norfolk, Va., at Hot Springs, Ark., July 16.

HENRY FIELD SMYTH, M.D., Germantown, Philadelphia, to Miss Alice Brackett of Worcester, Mass., at Pocassett, Mass., July 10.

WILLIAM COLBY RUCKER, M.D., U. S. M.-H. S., San Francisco, Cal., to Miss Annet Magdalene Guequierre of Milwaukee, Wis., July 19.

GEORGE R. ERNST, M.D., Milwaukee, Wis., to Miss Lucy Agnes Hoesch of Godesburg, Bonn., Germany, at Watertown, Wis., July 15.

Deaths and Obituaries.

Edward L. Parker, M.D. Syracuse University, N. Y., 1896. —The body of Dr. Edward L. Parker, a surgeon of the Long Island State Hospital at Flatbush, was cast up by the sea on Coney Island, July 16, on the day when he should have returned to the hospital after his two weeks' vacation. Though his colleagues found it difficult to believe that the doctor could have taken his own life, the finding of money and valuables and certain papers on his person lead the police to incline to the theory of suicide. He was 28 years old.

George L. Hicks, M.D. Columbian University, Washington, D. C., 1866, died from blood poisoning at his home in Cambridge, Dorchester County, Md., July 13, aged 63. He was a native of Alexandria, Va., and after practicing a few years in Baltimore County he moved to Cornersville, where he spent 25 years. Since 1893 he had practiced at Cambridge. He served in the medical department of the Army of Northern Virginia.

Walter Prescott Smith, M.D. University of Maryland, Baltimore, 1890, grandson of the late Prof. Nathan R. Smith, died at Baltimore from multiple neuritis, July 18, aged 34. He was a member of the American Medical Association, the Medical and Chirurgical Faculty of Maryland, and various other societies, and was founder of the Hospital for Consumptives.

James E. Dwinelle, M.D. Jefferson Medical College, Philadelphia, 1854, was found dead in bed, July 18, at his residence in Baltimore, from heart disease, aged 72. He settled for practice in Baltimore in 1855. He was a member of the American Medical Association, the Maryland Medical and Chirurgical Association and the Baltimore Medical Association.

John T. McLean, M.D. Tulane University, New Orleans, La., 1850, a pioneer of California, and whose life and acts were closely interwoven with the history of the state for half a century, passed away July 17, at the Alameda Sanitarium, aged 78. He was prominent in political life, and was for four years collector of the port of San Francisco.

Levi M. Gregory, M.D. Western Reserve University, Cleveland, Ohio, 1869, one of the most prominent physicians in Central Wisconsin, and a member of the American Medical Association, who had practiced for many years at Stevens Point, died at the residence of his son-in-law in Crystal Falls, Mich., July 21, after an illness of three months.

Frederick W. Cox, M.D. Bellevue Hospital Medical College, N. Y., 1887, captain and assistant surgeon, U. S. V., formerly of Vermilion, S. D., died at San Francisco, from appendicitis, July 18. He served in the Philippines as assistant surgeon to the First South Dakota Infantry, U. S. V., and was on leave at the time of his fatal illness.

Frederick B. White, M.D. Cornell University, N. Y., 1896, a practicing physician of New York City, committed suicide, July 18, by taking carbolic acid. He was 31 years old and came to New York from New London, Conn. His health failed and he became addicted to the use of morphin.

Elmer A. Erwin, M.D. Rush Medical College, Chicago, 1898, an ex-interne of Cook County Hospital and a practitioner of Anaconda, Mont., was found unconscious in the office of Dr. Lansing, Richville, Wash., July 17, and died a few minutes later, aged 28.

Joseph Biddle Wilkinson, M.D. University of Pennsylvania, Philadelphia, first resident physician in charge of the Mississippi River Quarantine Station (1855), died at the home of his son, Dr. Clement P. Wilkinson, New Orleans, July 21, aged 85.

Robert M. Hunt, M.D. Albany (N. Y.) Medical College, 1869, the oldest practitioner of California, died at his home in Nevada City, Cal., July 15, aged 74. For forty-three years he was county physician and in charge of the county hospital.

Abram M. Fanning, M.D. College of Physicians and Surgeons, New York, 1886, a well-known specialist on the eye, ear, nose and throat, died suddenly at his residence in New York City, July 20, aged 38.

John H. Richardson, M.D. New York University, 1854, a retired physician of Medfield, Mass., and a veteran of the Civil war, died at Brattleboro, Vt., after a short illness, July 21, aged 74.

John M. Gary, M.D. Kentucky School of Medicine, Louisville, 1885, a physician of Groveton, Texas, was assassinated by parties unknown, July 17, while making a professional call.

W. H. Drake, M.D. Kentucky School of Medicine, Louisville, 1889, died at his home in Bandana, Ky., from the effects of over-indulgence of lemon extract, July 22.

John C. Farmer, M.D. Medical College of Virginia, Richmond, 1860, died at his home in Pineville, Mo., July 6, from cancer of the lip and chin, aged 63.

Julian Bates, M.D. University of Pennsylvania, Philadelphia, 1855, a pioneer physician of Missouri, died at his home in St. Louis, July 20, aged 70.

Charles L. Carter, M.D. Washington University, St. Louis, 1863, a surgeon in the Civil war, died at his home in Warrensburg, Mo., July 21, aged 70.

John H. Morton, M.D. Tulane University, New Orleans, La., 1869, died at his home in Jordan, Ky., July 16, after an illness of several months.

Hamilcar Greenland, M.D. University of Iowa, Iowa City, 1889, was killed in a shooting affray in Okarchee, Canadian County, Okla., July 18.

A. Elmer De Lipcsey, M.D. University of Michigan, Ann Arbor, 1890, was shot and instantly killed in his office in Houston, Texas, July 17.

James B. Barr, M.D., of Mars, Pa., died suddenly from heart disease, July 18, while making a professional call in De Haven, aged 36.

Charles D. Martin, M.D. Bellevue Hospital Medical College, New York, 1867, died at his home in Allentown, Pa., July 15, aged 55.

Otto R. Grube, M.D. Tulane University, New Orleans, La., 1876, died at his home in New Braunfels, Texas, July 18.

Charles William Rinehart, M.D. University of Virginia, Charlottesville, died at Hot Springs, Ark., July 16.

Jacob Marta, M.D. University of Berne, Switzerland, 1883, died at his home in Kiel, Wis., July 18.

Miscellany.

German Dentists Not Doctors.—A graduate of an American dental college was fined $10 for using the abbreviation "Dr." on his "shingle" in a German city.—*Southern Drug Journal.*

A proprietary medicine advertisement in the daily papers says that "while scientists can analyze a diamond and discover each separate substance of which it is composed," no chemist can imitate the medicine advertised. Of how many separate substances is a diamond composed?—*Southern Drug Journal.*

Bread Rich in Cellulose.—Barany reports from von Noorden's clinic that remarkably favorable results have been obtained there from the use of a bread made of entire wheat flour mixed with a certain proportion of pure cellulose. For diabetics the bread is made with 9 or 10 per cent. shortening. The advantages of such a bread are obvious and have been confirmed in the clinic and by research which he describes in the *Wiener Med. Presse*, No. 9.

Puerperal Sepsis.—R. E. Skeel, in an article in the *Cleveland Medical Journal*, says: "When peritonitis or cellulitis has developed, local treatment should be applied with great circumspection or not at all. Every motion of the uterus tends to break up adhesions about it and thus furthers the spread of infection. Every case of peritonitis should at first be treated as though it were localized, and even if it afterward proves to be general no harm has been done."

A Fastidious Coroner.—A Long Island coroner has recently been reported as having omitted to make autopsies on two bodies recovered from the water, remarking that they had been in the water so long that it would be very disagreeable to conduct such examinations. It is understood that that coroner is a physician. If that is the case, we decline to credit the report, for no physician flinches in the face of disagreeable work simply because it is disagreeable.—*N. Y. Med. Jour.*

Chloroform in Heart Disease.—At the meeting of the Paris Academy of Medicine, held on May 20, M. Huchard summed up the important discussion which he has been so ably conducting. It has led to the conclusion that administration of chloroform is admissible in cases of senile heart and also when the heart is the subject of valvular lesions. Cardiac intermittence and syncope during the administration of chloroform are not, in most instances, the effect of cardiac disease, even aortic insufficiency is not a cause of syncope. Among 100 deaths under chloroform there are not ten in which the heart is at fault. Consequently cardiac disease, short of being in the stage of asystole, is not a contra-indication to the use of chloroform.—*London Lancet.*

The Saratoga meeting of the American Medical Association was an unqualified success from every standpoint. . . . Dr. Frank Billings of Chicago was elected president. For the first time in years, the surgeons gracefully conceded the presidency to the man of internal medicine. With such a scientific and popular head the association will continue to advance in every department. . . . The social side was particularly pleasing. There was no strained effort to entertain, each man being given every opportunity to follow his own desires. The springs were nearly drained by those who drank for results and those who drank out of curiosity, and both were satisfied. The music was good, the crowd was in the best of temper, and the near-by excursions were delightful.—*Northwestern Lancet.*

Technic for Ligating the Ureter.—L. Fraenkel reports in the *Arch. f. Gyn.*, lxiv, 2, that ligature of the renal end of the ureter invariably resulted in hydronephrosis in his extensive experimental research and that the ligature seldom resisted the strain. In nearly every instance there was retroperitoneal infiltration of urine and sepsis. He had previously established the similar results of ligating the tubes. It did not absolutely prevent the passage of ova and sperma, and a tubo-peritoneal fistula developed in consequence. He advises in case the ureter is to be ligated, to bring the renal stump out through the cutaneous incision and fasten it to the skin. There is always a moderate hydronephrosis if the ligature holds, but it does not cause symptoms, and leakage can be easily remedied while if uremic symptoms appear the ligature can be removed.

Historical Medical Museum.—The National Germanic Historical Museum at Nuremberg has recently celebrated its semi-centennial, and Peters describes the collections in the *Munch. Med. Wochenschrift*, and reviews the history of medicine among the early tribes of Germany. The Eddas contain many references to medical practices and superstitious healing rites. Amulets, etc., have been found in great numbers in excavations which confirm the statements in the sagas. The museum is unique in these Germanic relics and also in its displays portraying the history of pharmacology, astrology, etc. Peters urges the profession to make it the nucleus for a great world-museum for the history of medicine in general.

The Detroit Consolidation.—It is casting no reflection on either of the two medical societies which have hitherto flourished in Detroit to say that the medical men of the city took a big step forward last evening [July 25] when they voted to consolidate the Wayne County Medical Society and the Detroit Medical Society. This amalgamation reflects great credit on the members of the profession in Detroit for the liberality they displayed in falling in with the general spirit and purpose of the national organization, the American Medical Association. Though one of the old societies is continued in name, there will be such a change in condition as can not fail to give to the new society more influence and more scientific importance than either of the old ones ever possessed. Instead of being purly local the Detroit organization has now a national scope. A member of the national organization must belong to the state society; to belong to the state society he must be a member of the county society. But the state society may recognize only one organization in each county. There could, therefore, be no unity among the medical men of Detroit so far as state or national affairs were concerned before the action of last evening. Now this city, with one flourishing society, can take an important place in the general councils of medical men.—Editorial, *Detroit Journal.*

The fifty-third annual meeting of the American Medical Association has come and gone. In point of attendance, it did not compare favorably with many of the previous meetings, but as regards the excellence and quality of the papers presented, it has never been surpassed and seldom equaled. A glance through the program of the various sections reveals a very feast of interesting material, in touch with the most advanced ideas of scientific medicine. This elevation in the character of the papers shows that the resolution adopted a year ago in St. Paul that any paper, before it is eligible for publication in THE JOURNAL of the American Medical Association, must be viséed by a committee appointed by the section at which it is presented, has borne good fruit. The orations in medicine, surgery and state medicine, were well worthy of the high standing of the men who delivered them, and to one of the orators, Dr. Frank Billings, of Chicago, has been awarded the highest honor which the Association has to bestow. We feel confident that the new president will follow in the footsteps of his worthy predecessor, and do all in his power to make the American Medical Association what it really should be—not the representative body of a clique of physicians here and there, of one section of the state or another, of this county society or that, but of all medical men in good standing throughout the length and breadth of the United States. At present, many good men are debarred from membership because they do not happen to belong to the "affiliating local society," or because they differ regarding some point in that bugaboo of the medical profession, that *noli me tangere* of those who are fearful of straying from the straight and narrow path, namely, the code of medical ethics. We trust that the committee appointed by the president at the recent meeting, for the purpose of revising this code, will arrive at some satisfactory solution of the problem. There is no good reason why the American Medical Association, which has made such rapid progress in the last few years, should not embrace in its membership every physician in good standing in this country. The work of the House of Delegates during the recent meeting was watched with considerable interest. This body is composed of representatives from the affiliating state societies and the various sections, and upon it devolves the decision of all questions pertaining to the executive business of the Association. Some of the members were rather doubtful as to the outcome of this new order of things: it is true that the first session of the House of Delegates was rather stormy, but under the guidance of the president, Dr. Wyeth, with his tact and unfailing courtesy, all the questions brought up for consideration were satisfactorily disposed of. Among these was a resolution to exclude from the general exhibits of the Association any drug or article which is of such a character that it is ineligible for the advertising pages of THE JOURNAL. . . . Also a resolution, which was introduced at the request of the Section on Materia Medica, Pharmacy and Therapeutics, deprecating the distribution of samples to visitors who are not members of the Association. In addition to these, we might suggest a third, namely, that only members of the Association or medical visitors should be admitted to the Pathologic Exhibit. At the recent meeting the hall of this exhibit was visited by many women and children, to whom the specimens displayed could

only possess a gruesome interest.—*Medical Examiner and Practitioner.*

Original Medical Research in Japan.—Dr. K. Tamura, surgeon imperial Japanese army, delegate to the Association of Military Surgeons of the United States, read a paper before the association, in which he detailed some important original medical investigations made by Japanese military surgeons. First among these is the transmission of malaria by mosquitoes in Japan. Dr. Tsuzuki, surgeon major, under official orders, has conducted a series of investigations regarding the connection between mosquitoes and malaria in Japan, first in the Island of Jeso, in the northern part of the empire, and afterwards in Formosa, in the south, both of them noted as malarial regions, and then in the main island, especially in the neighborhood of Tokyo. He details the following results: 1. An experiment which proves that the three species of anopheles described can transmit malaria from man to man. 2. An experiment which proves that *Plasmodium vivax* can develop in the body of *Anopheles jesoensis*. 3. An experiment which proves that an infected *Anopheles jesoensis* can produce malaria by its sting in a quite healthy person. 4. An experiment in which it is proved that *Laverania malariæ* can develop in the body of *A. jesoensis* and *A. formosaensis I and II*. 5. The conclusion that the so-called summer-autumn fever and tertian fever are found in Japan, but that the quartan fever is never seen. In June, 1898, Dr. Okada, then surgeon major, was ordered to go to Formosa, where there was an epidemic of plague, and make research regarding the way in which it is transmitted. He made several discoveries, but these are now well known to the world, one of the most important of these was that the poisonous power of the plague bacillus is made stronger by passing through the bodies of insects. He made an infusion with distilled water from the paper on which infected flies had deposited their urine or feces, and made a subcutaneous injection of 0.3 c.c. of this solution into the bodies of rats. He obtained 6 positive and 2 negative results. According to Nuttal, it is after three or four days that rats die after the injection thus given, the solution not having passed through the body of insects. But in the investigator's experience the rats died in from only fifteen to twenty-five hours, and the quicker the death, the less distinct the pathologic change. Hence he concludes that the poisonous power of the plague bacillus is made more than twice as strong by passing through the body of insects. On account of the prevalence of malaria in Formosa and the mortality from this disease in that island, Dr. M. Koike, surgeon general and chief surgeon of the Medical Bureau of the War Department, caused to be initiated a new system of prevention based on the mosquito theory. Half the second company, first battalion of infantry at Kirum, Formosa, 115 in number, was thoroughly provided with means of protection from mosquito bites. They were confined in the casern from half an hour before sunset to half an hour after sunrise, the casern having been specially made to prevent mosquitoes entering, and they wore gloves and coverings of the head specially made for that purpose when on service at night. The results of these new methods for the prevention of malaria were absolutely good. Another half of the second company and all other companies of the battalion had a great many malaria patients, but the protected troop had none. Dr. Koike also directed examination into the hygiene of Japanese houses with especial reference to window material, which in Japan is paper. These investigations showed that the ventilation as compared with glass was as 2.41 to 0. Moreover, the texture of paper is such as to admit the air, and prevent in some degree germs from passing through it. This point was determined by counting the number of colonies of bacteria developed on the nourishment specially provided, one from the air inside (that is, passed through paper), another outside. The ratio of filtration varied from 71.4 to 97 per cent., according to the paper employed. The area of windows of the Japanese house is exceedingly large, compared with that of the foreign house; its proportion to the floor being as 1 to 1.8, and its ratio to the volume of air-contents being as 1 to 36, while that of an European house is as 1 to 40.

The Doctors Gustavus Brown of Maryland.—Much interest attaches to these eminent physicians who, in their day, were peerless in southern Maryland. A recent paper read before the Johns Hopkins Historical Club removes much of the obscurity and uncertainty of their lives and throws desirable light upon their career. The first was born at Dalkeith, near Edinburgh, Scotland, April 10, 1689, his father bearing the same name and his grandfather being Rev. Richard Brown, a graduate of the University of St. Andrews and minister to Salton in the reign of Charles I. Dr. Brown came to Maryland in May, 1708, as surgeon's mate on a royal ship. While he was visiting the shore a storm arose, and his ship was driven to sea, leaving him on shore with only the clothes he wore. Meeting with a hospitable reception from the planters, he was induced to settle at Nansemond, Md., where in 1710 he married the daughter of a wealthy planter, Francis Fowke. Dr. Brown acquired a large practice and wealth, his seat being called "Rich Hill," four miles from Port Tobacco, Charles County, Md. He had large estates in Scotland, and resided there with his family about four years, 1730-34. He lost his wife in the latter year and returned to Maryland. By his first wife he had 12 children, and by his second, a widow named Boyd, he had two. He died in April, 1762, at Rich Hill, of apoplexy. This Gustavus was active and influential in public and religious matters. He was an associate judge of Charles County court, and was one of the commissioners appointed to regulate the parishes of St. Mary's and Charles counties. He had a number of medical students, two of whom became his sons-in-law, viz.: Dr. Michael Wallace, of King George County, Va., and Dr. John Key, of St. Mary's County, Md. The indenture to him of the former is preserved, and is a curious paper, dated at Glasgow, 1734, and requiring an apprenticeship of six years. The nine daughters of Dr. Brown were so attractive as to have been known as "the nine graces." Four of them married Episcopal clergymen and a fifth married Hon. Thomas Stone of Maryland, signer of the Declaration of Independence. In Dr. Brown's will he calls himself "practitioner in medicine and laird of Mainside and House Byers in Scotland," distributed his extensive estates in that country and Maryland to his widow and children, and directed that a mourning ring be given to each worthy friend, naming seven for the honor. The second Gustavus, who had a middle name, Richard, was the son of his father's second marriage, and was born October 17, 1747. He took the degree of M.D. at the University of Edinburgh in 1768, the title of his thesis being: "De Ortee Animalium Caloris." Among his fellow students was Dr. Benjamin Rush. After "walking" the London hospitals for several months, he settled in practice in Maryland. Here he achieved great fame, being, as is well known, summoned in consultation at Mt. Vernon, in the last illness of George Washington; an interesting letter by him on the case is preserved in Lossing. He was a member of the Provincial Council and of the Committee of Correspondence 1774, and Judge of his county, 1776-7. He was also a member of the state convention for the ratification of the National Constitution in 1788; a visitor to St. John's College and grand master of Masons. He died at his residence, Rose Hill, near Port Tobacco, Sept. 30, 1804, aged 56. Dr. Brown was very fond of flowers and had a large botanical garden filled with rare and curious plants gathered from all parts of the world and cultivated for their medicinal as well as their esthetic qualities. It is said that Dr. Hosack got his idea of a public garden in New York from Dr. Brown's. In his large and elegant mansion Dr. Brown dispensed a generous southern hospitality, and he was the most popular preceptor and medical student of his section. He was a fine classical scholar and an earnest Christian. Gustavus Brown the third was the grandson of the first Gustavus, but only the nephew of the second, who was three years his junior. His father was the Rev. Richard Brown, a minister of the Anglican church and son of the first Gustavus by his first wife. He was born at Mainside, near Edinburgh, where his father resided, in 1744. After a seven years' course at the University of Edinburgh he obtained the degree of M.D. there in 1770. The title of his thesis was "De Cynanche Phlogistica." Shortly after he accompanied some of his fellow graduates to Maryland, and with

them settled in St. Mary's County, Md. In 1782 he attended one of those friends in illness and the case proving fatal, married the widow. This lady was the daughter of Col. John Reeder, of the Revolutionary Army and of a Huguenot family. She was very wealthy, and her place was called "Summerseat." Here in the enjoyment of all that affluence can yield, the doctor settled and practiced up to the period of his death, July 3, 1801, at the age of 56. He left no children. In the last illness of Washington he was called in consultation with the three other physicians, and had gotten as far as the "Long bridge," when learning of the fatal issue, he turned back. The hastily-written summons, together with other relics of Dr. Brown, were destroyed by fire at the old homestead in 1874. Both the second and third Gustavuses were among the 101 founders of the Medical and Chirurgical Faculty of Maryland in 1799.

Association News.

Registration at Saratoga.—The name of Dr. H. Brooker Mills, Philadelphia, was omitted from the list of those registered in the Section on Surgery and Anatomy printed in THE JOURNAL of July 19.

An Omission in Materia Medica Minutes.—Prof. C. S. N. Hallberg, secretary of the Section on Materia Medica, Pharmacy and Therapeutics, informs us that an error occurred in preparing the minutes of that Section for publication. Paper No. 18, by Dr. Albert B. Lyons, Detroit, on "Some New Sugar Tests," which was discussed by Dr. H. Stern, New York City, was omitted. It was read after paper No. 17.

The Chairman of the Committee of Arrangements.—Dr. Isadore Dyer, New Orleans, has been selected Chairman of the Committee of Arrangements for the next meeting of the American Medical Association in New Orleans, May 5-8, 1903.

A special meeting of the members of the American Medical Association residing in New Orleans was held to consider arrangements for the 1903 meeting and their sentiment was expressed in the following resolution:

Resolved, That the selection of Dr. Isadore Dyer as Chairman of the Committee of Arrangements is cordially endorsed; and that everything possible shall be done to assist the Committee of Arrangements in making this meeting one of the most successful in its history, and to demonstrate that the reputation of New Orleans for open-handed hospitality is well founded.

First Annual Reunion of Connecticut Members of the American Medical Association.—On the return from the Saratoga meeting last June, Dr. Charles James Fox of Willimantic suggested that those present in the train should have a social gathering on some day in July, accompanied by wives or friends or both. The more the matter was considered the more attractive it seemed, with its possibilities of increasing interest in the National Organization, of advocating its benefits to the four hundred or more members of the state society who are still outside the fold, and to increase professional and intellectual attainments by personal and social intercourse. A temporary organization was effected with Dr. Fox as president and Dr. J. M. Keniston of Middletown, secretary. The latter issued a circular letter to all the members he could reach and responses were received from fifty members, heartily approving the plan and many signifying their intention to be present. Encouraged by this, suitable arrangements were made, and on Tuesday, July 22, 1902, a meeting was held at the New Surf House, Savin Rock.

At the business meeting it was decided to form a permanent organization and the temporary president and secretary were reëlected for the coming year. A committee of five, consisting of the president, secretary, and Drs. G. Eliot of New Haven, J. F. Calef of Middletown, and G. A. Shelton of Shelton, was selected to make all necessary arrangements for the next meeting in 1903, in line with the principles and aims suggested by various members. These aims are: to promote a more fraternal relation between the present members of the American Medical Association and their families by means of an annual outing; to secure as many new members as possible; and to support more practically and wisely not only the National, but the state and district associations as well.

After the business meeting, a fine sea food dinner was served to the members and their families, followed by instructive, interesting and witty speeches by Dr. Edwin B. Lyon, New Britain; Dr. Gould A. Shelton, Shelton; Dr. Miner C. Hazen, Haddam; Dr. J. F. Calef, Middletown, and Dr. Thomas H. Manley, New York, who was present by invitation of Dr. T. D. Crothers, Hartford. Dr. C. J. Fox acted as toastmaster and introduced each speaker in a few well-chosen words. Every one present considered the affair an unqualified success, and were filled with enthusiasm for the work of the coming year. Besides those mentioned above, there were present Drs. L. Barnes, E. G. Fox, S. M. Garlick, F. K. Hallock, S. D. Otis, W S. Randall, W. K. Spencer and J. W. Wright.

The secretary would be glad to answer promptly all letters of inquiry, not only from members of the Association, but from all other members of the Connecticut Medical Society who would like to join the National organization. Address J. M. Keniston, M.D., Hospital for Insane, Middletown, Conn.

Societies.

Tri-County (Ill.) Medical Society.—The annual meeting of this Society was held June 3, at Watseka, Ill. Dr. Francis M. Mason, Rossville, president; Dr. Carey Culbertson, Piper City, vice-president, and Dr. Leroy Jones, Hoopeston, secretary-treasurer.

Southern Oregon Medical Society.—The annual meeting of this Society was held in Ashland, May 13. Dr. D. M. Brower was elected president, and Dr. Marion F. Shaw secretary and treasurer, both of Ashland. The next meeting will be held at Grant's Pass in November.

Walla Walla County (Wash.) Medical Society.—At the annual meeting of this Society at Walla Walla, July 15, Dr. Nelson G. Blalock was elected president; Dr. Milton A. Nelms, vice-president; Dr. Yancey C. Blalock, secretary, and Dr. William Van Patten, treasurer, all of Walla Walla.

Scott County (Iowa) Medical Society.—At the annual meeting of this Society, held in Davenport, June 5, Dr. Alphons L. Hageboeck was elected president; Dr. Lee Weber, vice-president; Dr. John D. Cantwell, secretary, and Dr. Charles H. Preston, treasurer, all of Davenport.

Traverse City Medical Society.—The physicians of Traverse City met June 10 and organized a local society with the following officers: Dr. Arthur H. Holliday, president; Dr. Humphrey B. Anderson, vice-president; Dr. Oscar E. Chase, secretary, and Dr. Charles J. Kneeland, treasurer.

Susquehanna County (Pa.) Medical Society.—At the annual meeting of this Society, held in Montrose May 6, Dr. John G. Wilson, Montrose, was elected president; Dr. Eben P. Hines, Great Bend, vice-president; Dr. Edward R. Gardner, Montrose, secretary, and Dr. Calvin C. Halsey, Montrose, treasurer.

Salem County (N. J.) Medical Society.—This Society, at its annual meeting in Woodstown, May 8, elected Dr. Benjamin A. Waddington, Salem, president; Dr. Henry T. Johnson, Pedricktown, vice-president; Dr. Henry Chavanne, Salem, secretary and treasurer, and Dr. William H. Carpenter, Salem, reporter.

New York State Medical Association, Third District Branch.—The eighteenth annual meeting of this branch of the state association was held in Syracuse, June 26. Dr. Chauncey P. Biggs, Ithaca, was elected president; Dr. Franklin J. Kaufmann, Syracuse, secretary, and Dr. Frank Kenyon, Scipio, treasurer.

Tioga County (Pa.) Medical Society.—The annual meeting of this Society was held at Lawrenceville, June 20. Dr. Clarence W. Webb, Wellsboro, was elected president; Dr. Lewis J. Darling, Lawrenceville, vice-president; Dr. Arland L. Darling, Lawrenceville, secretary, and Dr. Solomon P. Hakes, Tioga, treasurer.

Somerset County (N. J.) Medical Society.—The annual meeting of this Society was held in Somerville, May 1. Dr. Sewell O. B. Taylor, Millstone, was elected president; Dr. Claudius R. P. Fisher, Bound Brook, vice-president; Dr. Aaron L. Stillwell, Somerville, secretary, and Dr. John P. Hecht, Somerville, treasurer.

St. Louis County (Minn.) Medical Society.—At the annual meeting of this Society, held in Duluth, May 7, the following officers were elected: Dr. Alfred E. Walker, president;

Drs. William R. Bagley, and John H. Carson, vice-presidents; Dr. Frederic J. Patton, secretary, and Dr. Clarence E. Lum, treasurer, all of Duluth.

New York State Medical Association, Second District Branch.—The eighteenth annual meeting of this branch was held in Troy, May 29. Drs. E. D. Ferguson and William L. Hogeboom, Troy, were re-elected president and secretary-treasurer, respectively, and Dr. Pierson C. Curtis, Round Lake, was elected vice-president.

Alumni Association of the College of Physicians and Surgeons, San Francisco.—At its annual meeting in San Francisco, June 23, this body elected the following officers: Dr. Carroll O. Southard, president; Dr. T. Edward Moore, vice-president; Dr. Charles Troppmann, secretary, and Dr. E. A. Besson, treasurer, all of San Francisco.

Rush Medical College Alumni.—At the annual meeting, June 11, the following officers were elected: Dr. Vincent P. Kennedy, Aberdeen, S. D., president; Drs. Horace Wardner, La Porte, Ind., and Charles J. Lewis, Chicago, vice-presidents; Dr. John E. Rhodes, Chicago, secretary and treasurer, and Dr. Augustus L. Craig, Chicago, necrologist.

Oxford Medical Association.—At the annual meeting of this Association, held in Gorham, Me., June 30, the following officers were elected: Dr. Bial F. Bradbury, Norway, Me., president; Drs. John D. Holt, Berlin, N. H., and Clark B. Rankin, Mechanic Falls, Me., vice-presidents, and Dr. Herman L. Bartlett, Norway, Me., secretary and treasurer.

Sussex County (N. J.) Medical Society.—The seventy-third annual meeting of this Society was held at Newton, May 20. The following officers were elected for the coming year: President, Dr. J. G. Coleman, Hamburg; vice-president, Dr. Milton N. Armstrong, Newton; secretary, Dr. Sheppard Voorhees, Newton, and treasurer, Dr. Ephraim Morrison, Newton.

New Brunswick Medical Society.—The twenty-second annual meeting of this Society was held at St. John, July 15 to 18. During the course of the meeting the following members contributed papers: Dr. Atherton, Frederickton; Drs. C. R. Shaughnessy, Laughlin, Milton, Maclaren and G. A. B. Addy, St. John; Dr. C. M. Campbell, Halifax, and Dr. Lawson, St. Stephen, N. B.

Rock Island County (Ill.) Medical Association.—At the semi-annual meeting of this organization, held at Rock Island, June 27, the following officers were elected: Dr. James W. Morgan, Moline, president; Drs. Peter Eckhardt, Taylor Ridge, and Cyrus T. Foster, Rock Island, vice-presidents; Dr. James F. Myers, Rock Island, secretary, and Dr. Louis Ostrom, Jr., Rock Island, treasurer.

Southern California Medical Society.—The twenty-ninth annual session of this Society was held at Idyllwild, May 23. The chief topic under discussion was tuberculosis, its prevention, and sanatorium treatment. The following officers were elected: Dr. Fitch C. E. Mattison, Pasadena, president; Drs. John C. King, Banning, and Frank W. Thomas, Claremont, vice-presidents, and Dr. Frank D. Bullard, Los Angeles, secretary and treasurer.

Rock River Valley (Ill.) Medical Society.—The annual meeting of this Society was held in Dixon, July 17, 1902. The following officers were elected: President, Dr. John F. Keefer, Sterling; vice-president, Dr. Charles W. McPherson, Hazelhurst, and secretary, Dr. Edmund B. Owens, Dixon. At the same time county organizations in Lee, Whiteside and Ogle were effected. The next meeting will be held in Sterling, October 2.

North Texas Medical Association.—At the meeting of this Association in Fort Worth, June 18, President Dr. Jesse B. Shelmire, Dallas, criticised severely past Texas laws, which enabled incompetent doctors to practice, and said that while the present law might have been made better it was an improvement over the old one, which permitted persons who had never seen the inside of a medical school to practice. He deplored the multiplication of private medical schools, and was in favor of raising the standard in the profession of Texas.

Old Dominion Medical Association.—The colored physicians of Virginia met in Richmond, Va., July 4, and formed a state organization to be known as the Old Dominion Medical Association, with the following officers: President, Dr. Richard F. Tancil, Richmond; vice-presidents, Dr. Philip L. Barber, Norfolk; Maurice W. Pannell, Staunton; Robert J. Boland, Roanoke, and Albert Johnson, Alexandria; treasurer, Dr. H. G. Wood, South Boston; secretary, Dr. C. S. Wilder, Richmond, and assistant secretary, Dr. Charles P. White, Richmond.

Rhode Island Medical Society.—The ninety-first annual meeting of this Society was held in Providence, June 5. The presidential address was on "Heredity and Its Lessons"; Dr. George S. Mathews, Providence, read an able paper on "Pulmonary Embolism" and Dr. Helen C. Putnam, Providence, discussed "Sir James Paget in His Writings." The following officers were elected: President, Dr. George F. Keene, Howard; vice-presidents, Drs. William R. White, Providence, and Christopher F. Barker, Newport; recording secretary, Dr. Stephen A. Welch, Providence; corresponding secretary, Dr. Herbert Terry, Providence, and treasurer, Dr. George S. Mathews, Providence.

Platte County (Mo.) Medical Society.—At the regular quarterly meeting held in Platte City, July 12, this Society elected Dr. William H. Middleton, Camden Point, president; Drs. R. P. Davis, Woodruff, and A. S. Herndon, Camden Point, vice-presidents; Dr. Henry M. Clark, Platte City, secretary, and Dr. Grundy Coffey, Platte City, treasurer. This meeting was postponed two weeks in order that it might occur on the fiftieth anniversary of the graduation in medicine of Dr. E. McD. Coffey. At the conclusion of the banquet Dr. R. P. C. Wilson arose and, in an exceedingly appropriate address, presented to Dr. Coffey, on behalf of the Society, an elegant gold-mounted silk umbrella.

Cripple Creek (Colo.) District Medical Society.—This Society met in regular monthly session, July 8, in Cripple Creek. Dr. A. I. Hayes read a paper on "Hereditary Ataxia," which was thoroughly discussed by the members. Resolutions of condolence were passed upon the death of Dr. George E. Tyler, secretary of the Colorado State Board of Health. A vote of thanks was extended to Dr. George McKenyie, Victor, president of the Society. The following officers were elected for the ensuing term: President, Dr. Wilbur T. Liggett, Cripple Creek; vice-presidents, Drs. J. S. Manly, Alfred I. Hayes, Goldfield, and G. W. Deemer; secretary, Dr. Meyer D. Gibbs, Cameron; treasurer, Dr. Harry G. Thomas, Victor.

Sioux Valley Medical Association.—At its annual meeting, in Sioux City, Iowa, June 26-27, this Society elected Dr. D. T. Martin, Pomeroy, president; Drs. Michael Sullivan, Adrian, Minn., and Dr. William J. Bussey, Jefferson, S. Dak., vice-presidents; Dr. Maxwell E. Silver, Sioux City, Iowa, secretary, and Dr. Samuel A. Brown, Sioux Falls, S. Dak., treasurer. The next semi-annual meeting will be held in Cherokee, in January, 1903. In his presidential address Dr. Gilbert G. Cottam, Rock Rapids, Iowa, commented on the vast improvement brought out in the conduct of the business of the American Medical Association by adopting the plan of having a House of Delegates and other changes in the constitution.

Maritime Medical Association.—The twelfth annual meeting of this Association was held at Charlottetown, P. E. I., July 9 and 10. Among others from a distance who contributed to the success of the meeting were Dr. W. B. Geikie, Toronto, who read a paper on the "Greater Desirability of Simplicity in Medical Treatment"; Dr. H. D. Hamilton, Montreal, who treated of "Surgical Cases in Practice," and Dr. Stoddart, Pueblo, Colo. The following were the officers elected: President, Dr. Murray MacLaren, St. John, N. B.; vice-president for Prince Edward's Island, Dr. P. C. Murphy, Tignish; vice-president for Nova Scotia, Dr. G. M. Campbell, Halifax; vice-president for New Brunswick, Dr. R. L. Botsford, Moncton, and secretary, Dr. T. D. Walker, St. John, N. B.

Northern Missouri Medical Association.—The tenth annual session of this Association was held at Macon, June 19 and 20. An important act was the passage of a resolution as an amendment to the constitution, providing that hereafter the secretaries and presidents of county and district associations shall pass on the credentials of physicians seeking entrance into state conventions. It is understood that the delegates so certified will be received by the state meetings. This does away with the ponderous work of a committee on credentials. The amendment also results in reducing the fee for state members from $4 to $2, and makes every county and district society in the association an adjunct of the state medical association. The next meeting will be held at Columbia, June 18 and 19, 1903. The following officers were elected: President, Dr. W. S. Thompson, Armstrong; vice-presidents, Drs. W. V. Yates, Callao, and Edwin S. Cave, Mexico; corresponding secretary, Dr. William O. Hawkinson, Roanoke; recording secretary, Dr. L. W. Dallas, Hunnewell, and treasurer, Dr. Robert Haley, Brookfield.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Adenopathy in Children.

The treatment of adenopathy, tracheo-bronchitic in character, in children, according to abstract in *Amer. Medicine*, must be prophylactic, pathogenic and symptomatic. The prophylactic treatment should be the same as for tuberculosis. If adenopathy is established efforts must be made to diminish it, or at least to hinder its increase. Two means are employed for this purpose: revulsives and general treatment. The best revulsives are tincture of iodin applied locally, fly blisters and actual cautery applied to the interscapular region.

The following is recommended to be applied locally:

℞. Potassii iodidi
Ext. conii, āā 3ss 2
Adipis benzoinatis 3viiss 30
M. Ft. unguentum. Sig.: Apply locally with friction once daily.

And internally the following:

℞. Potassii iodidi .....gr. lxxv 5
Syr. aurantii .....ʒii 60
Aq. destil. .....ʒiv 120
M. Sig.: One tablespoonful in the morning.

Chronic Otitis Media.

According to H. Gaudie in *Med. Rec.*, instillations into the ear of fifteen to twenty drops of a 2 per cent. aqueous solution of methylene blue, after a preparatory cleansing with soap and water, diminishes the purulent discharge and controls the fetid odor in cases of chronic otorrhea of children.

Oleum Ricini in Typhoid Fever.

Dr. C. C. Bass, in *Miss. Med. Rec.*, after trying castor oil in eight cases of typhoid fever in which diarrhea, delirium and tympanitis were prominent symptoms, states that in any case of typhoid fever, a dose of castor oil should be given every morning. The dose should be large enough to act in four to six hours and should range from two teaspoonfuls to two tablespoonfuls according to the condition of the bowels. The medicine should be floated in sweet milk and there will be no objections to the taste. He states, with this treatment, that no other medicine will be required.

Dysentery.

T. S. Dabney, in *Merck's Archives*, states that he has cured very obstinate cases of dysentery, especially tropical cases, by administering anthelmintics. He gave thymol for two or three doses, in doses of thirty or forty grains each, preceded by a saline purge and followed by several high saline enemata.

In some cases he prescribes the following:

℞. Morphinæ sulph. .....gr. ss-i 03-06
Sodii sulph. .....ʒi 30
Acidi sulphur. dil. .....ʒi 4
Aq. cinnamomi q. s. ad .....ʒiv 120
M. Sig.: One tablespoonful in a small amount of water every three hours.

This medication should be continued until the discharges lose their bloody character and become feculent. The author prefers the sodium salt instead of the magnesium in the foregoing prescription on account of its stimulating action on the liver. The addition of sulphuric acid renders the intestinal contents less alkaline and thus less suitable for bacterial development. When the stools assume a feculent character, bismuth subnitrate is given in doses of from fifteen to thirty grains every three or four hours, or salol in five-grain doses every three or four hours. Strict attention must be given to the diet by nourishing the patient with roast beef, mutton, eggs, red wine, etc. Dilute nitro-hydrochloric acid in doses of ten or fifteen drops in a glass of water, as a drink, is agreeable and aids in stimulating the hepatic functions and retarding the growth of bacteria. When the disease becomes subacute or chronic silver nitrate is of benefit, prescribed as follows:

℞. Argenti nitratis .....gr. xx 1 30
Fuller's earth. q. s.
M. Ft. pillulæ No. xxx. Sig.: One pill twice daily, one hour before or after a meal.

During this medication salted food should be avoided. The topical application is sometimes preferable as follows:

℞. Argenti nitratis .....ʒss 2
Aq. destil. .....Oii 960
M. Sig.: Inject the full amount high into the bowel and repeat not oftener than once in twenty-four hours.

[We wish to call attention to the fact that the usual dose of thymol, given internally, is one to three grains.]

For the Removal of Corns.

The following is recommended by *Merck's Report* in treatment of corns:

℞. Resorcin
Acidi salicylici
Acidi lactici, āā .....ʒss 2
Collodii flex. .....ʒv 20
M. Sig.: Apply locally once a day for four or five days, at the end of which time the corn can be removed.

Mercurial Ptyalism.

The following combination is recommended by the *St. Louis Med. Rev.* in the treatment of ptyalism:

℞. Tinct. myrrhæ .....ʒss 2
Pot. chloratis .....ʒiii 12
Aq. camphoræ .....ʒviii 240
M. Sig.: Shake. Use as a mouth wash every two or three hours to check the secretion and harden the gums.

Epilepsy.

Shoemaker states that anemia frequently accompanies epilepsy and when such is the case benefit is derived from the administration of iron, combined with other bromids as follows:

℞. Potassii bromidi .....ʒvi 24
Syr. ferri bromidi .....ʒvi 24
Tinct. chiratæ
Elix. simplicis, āā .....ʒi 30
Aq. cinnamomi q. s. ad .....ʒvi 180
M. Sig.: One tablespoonful in water three times a day.

To Produce Diaphoresis.

The following is recommended by the *Practitioner*, to produce diaphoresis in combating colds:

℞. Pulv. camphoræ .....gr. v 30
Pulv. opii .....gr. 1/3 02
Potass. acetatis .....gr. iii 20
Sacchari .....ʒiiss 10
M. Ft. Chartula No. i. Sig.: One such powder to be taken in cup of tea at bedtime.

Dental Anodynes.

The following combinations have been recommended by Dr. Redier in *Jour. de Med. de Paris* for the relief of pain from an exposed nerve in a tooth:

℞. Tinct. benzoin .....ʒiss 6
Tinct. opii .....ʒss 2
Spts. chloroformi .....ʒss 2
M. Sig.: Apply locally on a pledget of cotton; or:

℞. Creosoti
Spts. chloroformi
Tinct. opii, āā .....ʒss 2
Tinct. benzoini .....ʒi 4
M. Sig.: Clean the cavity thoroughly and insert a pledget of cotton saturated with the mixture.

The cavity may then be covered by another tampon saturated with a resinous mixture which will be precipitated by the saliva forming a more or less solid mass. The following will serve the purpose:

℞. Pulv. camphoræ .....gr xxx 2
Balsam Peru. .....gr. xxx 2
Mastiches .....gr. lxxv 5
Spts. etheris .....ʒx 10
Alcoholis .....ʒx 10
Misce by dissolving the resins in the alcohol and ether. Sig.: Apply locally and renew every twenty-four or forty-eight hours.

Benign Facial Neuralgia.

According to an extract in *N. Y. Med. Jour.*, aconite ranks first in the treatment of facial neuralgia, but it must be attentively watched and its administration stopped on the first sign of intolerance, such as numbness of the face and tongue.

The following combination is recommended by Medclaff:

℞. Tinct. aconiti rad.
Tinct. colchici sem.
Tinct. belladonnæ, āā.....3i 4
M. Sig.: Six drops to be taken every six hours in water.

The following has also been recommended:

℞. Croton-chloral
Glycerini (pure).
Confect. rosæ, āā.....gr. xv 1
M. Ft. pil. No. xx. Sig.: One every hour.

Or:

℞. Croton-chloral .....gr. xv 1
Glycerini (pure) .....℥ii 60
Essentiæ menth. pip.....gtt. iii 20
Syrupi simplicis .....℥vi 24
Aquæ .....℥ii 60
M. Sig.: One teaspoonful in water every two hours.

Medicolegal.

Expense of Nurse and Ward in Hospital Recoverable.—The Supreme Court of Alabama says, in Montgomery Street Railway vs. Mason, a personal injury case brought by the latter party, that, if the attendance of a nurse was necessary while he was under treatment for his injuries received on account of the negligence of the street railway, it can not see why this was not as essentially an element of recoverable damage as the professional fees of the attending physician. So, too, it holds, the necessary expense of a private ward in the hospital while undergoing treatment would constitute a proper element of recoverable damage.

Exclusion of Healthy Persons by State Quarantine.—That from an early day the power of the states to enact and enforce quarantine laws for the safety and the protection of the health of their inhabitants has been recognized by Congress, the Supreme Court of the United States says, in the case of the Compagnie Francaise vs. the State Board of Health of Louisiana, is beyond question. That until Congress has exercised its power on the subject, such state quarantine laws for the purpose of preventing, eradicating, or controlling the spread of contagious or infectious diseases, are not repugnant to the constitution of the United States, although their operation affects interstate or foreign commerce, is not an open question. And it holds constitutional a statutory provision that the State Board of Health may, in its discretion, prohibit the introduction into any infected portion of the state, persons acclimated, unacclimated or said to be immune, when in its judgment the introduction of such persons would add to or increase the prevalence of the disease.

Copy of Record of Certificate of Cause of Death.—The Supreme Court of Vermont says that, in the case of McKinstry vs. Collins, where it was sought to recover damages for an alleged assault which it was claimed caused the death of the victim, the parties sued were permitted to introduce in evidence a certified copy of the record in the town clerk's office of the certificate of death made by one of the attending physicians, as tending to show that death was from pneumonia. It is clear, the court says, that the record of a certificate made and recorded in conformity to the provisions of the law is a public record, and that a certified copy of such a record is admissible in evidence, and is presumptive admissible of such facts stated therein as the attending physician is, by law, required to certify to, and are presumably within his personal knowledge. While the cause of death is more or less uncertain it would seem, in the absence of a postmortem examination, that an attending physician would be more likely to have personal knowledge of the cause of death than any other person, and that his certificate of the cause of death should be regarded as a statement of a fact within his personal knowledge, and therefore within the rule above stated.

Failure to Appear Before Board—Revoking License.—The Supreme Court of Vermont says, in the case of Stevens vs. Hill, that the petitioner got himself licensed to practice medicine on the strength of a diploma from a college in Ohio. The board of censors who licensed him became suspicious that the diploma was bogus, and sent him word that they wanted to see it again. He promised to come, but failed to keep his word. Finally, they had him summoned to appear and show cause why his license should not be revoked as having been procured by fraud in presenting a forged and spurious diploma. He did not appear, and the board revoked his license, basing their action, as they stated, partly on the affidavit of the secretary of the Ohio college that no such person as the petitioner had ever been granted a diploma therefrom. His request for a writ of certiorari, by which he hoped to get the case before the court for review, was put on the ground that the board acted without any evidence, in that the affidavit was not taken on notice to him. But the Supreme Court declares that it could not be said that the affidavit was no evidence. If the petitioner wished to insist on formal and regular proof, he should have made his appearance. He chose to stay away, and it was not just that he should take the objection by this extraordinary writ. He had his day in court, and must be treated as having waived such formal objections as much as if he had been present and held his peace. Wherefore, the writ was denied.

Physician's Certificate Affected by Privilege.—Section 834 of the New York Code of Civil Procedure prohibits a physician from disclosing any information acquired in a professional capacity, necessary to enable him to act in that capacity. Certain sections of the Greater New York charter make it the duty, under pain of committing a misdemeanor, to make and file a certificate stating, among other things, the age of the deceased and the cause of his death. Section 955 of the Code makes such records, if on file in the health department, among other things, for 20 years or upward, presumptive evidence of the contents thereof in any court in the state in any controversy and as between any parties. Though this section has been in force since 1892, it is said by the trial term of the Supreme Court of New York, New York County, in the case of Robinson vs. the Supreme Commandery, United Order of the Golden Cross of the World, no case similar to this one can be found that has arisen under it, namely, involving the question of whether Section 955 qualifies or limits Section 834 in a case where a certificate of death has been on file upward of 20 years. Or, as the court further says: It must be apparent that, in case of death, where a physician has made a certificate of the cause of death, the purpose for which Section 834 is designed, namely, the protection of parties from disclosures of information imparted in confidence and public policy, can no longer avail. The death certificate is required by public policy affecting the people of the state, and, therefore, higher than that which affects the private individual, and the information acquired in confidence is no longer withheld, but made public by statute. Death removes the secrecy of its cause. The questions then arise, are not the force and scope of Section 834 limited in the case of death where a physician has given a certificate of the cause of death, and where the ban of secrecy has been removed by obligations of law, and are they not further limited by Section 955, which permits records on file in the board of health for a period of 20 years or upward prior to trial of an action to be presumptive evidence of their contents? Section 955 was obviously intended to give the force of evidence to ancient documents and the recitals therein, owing to the natural difficulties that arise after the lapse of 20 years in securing original proof. But was it intended by Section 955 to make that admissible which Section 834 forbids? The court thinks not. It can not, it says, limit the scope of Section 834, or construe Section 955 as coming within an exception to Section 834. And where an applicant for life insurance named a physician as one of whom the insurer might inquire, as to his health, before accepting the risk, the court holds that it was not a waiver of the benefits of Section 834. In other words, the insurer not having availed itself of this offer, it could not claim to do so at the trial.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), July 19.

1 *The Composition of the Tubercle Bacilli Derived from Various Animals. E. A. de Schweinitz and M. Dorset.
2 *"Surra" or Nagana; A Report of an Acute, Fatal, Epidemic Disease Affecting Horses and Other Animals; With Studies on the Mode of Transmission, Etc. Joseph J. Curry.
3 Ankylostomiasis in an Individual Presenting All of the Typical Symptoms of Pellagra. H. F. Harris.
4 *Ankylostomiasis in Florida and Cuba: The New Species, Uncinaria Americana. John Guiteras.
5 A Case of Severe Anemia Caused by the Uncinaria Duodenalis. A. B. Herrick.
6 Notes on Gastric Acidity: Free HCl. A. L. Benedict.
7 Surgical Observations in Berlin. Nicholas Senn.
8 On Some Prevalent Obstacles to Professional Unity. W. W. Vinnedge.

Philadelphia Medical Journal, July 19.

9 *The Mental Disorders of Children. (To be continued.) F. X. Dercum.
10 *Recent Progress in Prostatic Surgery. G. Frank Lydston.
11 Hemorrhagic Infarction of the Kidney, with Report of a Case. George P. Dale.
12 Mutism and Aphasia; A Clinical Lecture. (Continued.) Hermann Gutzmann.

Medical Record (N. Y.), July 19.

13 *Mosquito Work in Havana. W. C. Gorgas.
14 *Appendicitis as Viewed in the Early Part of the Last Century, with a Few Notes on the Essay of Méliet. Thomas H. Manley.
15 *Ear Complications of Measles and Their Treatment. Herman Jarecky.
16 Some Popular Objections to Vaccination. William R. Fisher.
17 *The Hygiene of Pregnancy. Frederick W. Smith.

Boston Medical and Surgical Journal, July 17.

18 *A Report of Two Cases of "Typhoid Spine." George W. Moorehouse.
19 *Empyema in Children. F. J. Cotton.
20 The Influence of Alcohol upon Infection and Its Use in the Treatment of Acute Infectious Diseases. (Concluded.) S. J. Meltzer.
21 A Case of Subphrenic Abscess on the Left Side Following Appendectomy. Eugene A. Darling.

Cincinnati Lancet-Clinic, July 19.

22 *State Medicine, Past, Present and Future. J. M. Emmert.
23 Felon. Robert Carothers.
24 Surgical Fever. Cyrus A. Kirkley.

New York Medical Journal, July 19.

25 *Subcutaneous Division of the Tendo Achillis for the Relief of Equinus Following Infantile Paralysis. Russell A. Hibbs.
26 *On the Contraction of the Iliopsoas Muscle as an Aid in the Diagnosis of the Contents of the Iliac Fossa. S. J. Meltzer.
27 *The Early Diagnosis of Uterine Cancer; Operative Limitations. John O. Polak.
28 *The Histrionic Element of Mental Disease. Theodore H. Kellogg.

Medical News (N. Y.), July 19.

29 *Illustrative Errors and Difficulties in the Diagnosis of Affection of the Biliary System. C. L. Gibson.
30 *The Non-Heredity of Acquired Characters. Lawrence Irwell.
31 *The Morning Drop: Its Treatment. Ferd. C. Valentine.
32 *Is Vivisection a Benefit to Animals and Man and Justifiable? E. Stuver.
33 *Hepatic Gout and Its Treatment. J. Leffingwell Hatch.
34 Report of a Case of Cerebral Tumor. Frank H. Stephenson.
35 Observations upon Two Interesting Cases of Local Manifestations of Hysteria in Joints and Muscles. Prescott Le Breton.

St. Louis Medical Review, July 12.

26 Endemic Amebic Dysentery. Jesse S. Myer.

July 19.

37 The Present Aspect of the Cancer Problem. Roswell Park.

Chicago Medical Recorder, July.

38 *The Etiology and Spread of Typhoid Fever. Victor C. Vaughan.
39 Primary Tuberculosis of the Parotid Gland, with the Report of a Case. Jacob Frank.
40 Medical Instruction. M. J. Seifert.
41 The Rational Conduct of the Third Stage of Labor. Rudolph W. Holmes.
42 A Case of Pneumatocele Capitis Supramastoides. George Morgenthau.

Indiana Medical Journal (Indianapolis), July.

43 Internal Hemorrhoids. George J. Cook.
44 Treatment of Internal Hemorrhoids. Alois B. Graham.

SYMPOSIUM ON THE TREATMENT OF TUBERCULOSIS.

45 The Preventive Treatment. Allison Maxwell.
46 The Early Treatment. Theodore Potter.
47 The Treatment of Advanced Cases. Louis Burchardt.

St. Paul Medical Journal, July.

48 *An Analysis of Nine Hundred and Forty-nine Cases of Pneumonia. George E. Sears and R. C. Larrabee.
49 A Plea for Instruction in Massage and Kineto-Therapeutics (So-called "Swedish Movements") in the Curriculum of Our Medical Colleges. Oscar A. Fliesburg.
50 The Reciprocal Relations Between Physicians and Medical Journals. Burnside Foster.
51 State Sanatoria for Consumptives. H. Longstreet Taylor.
52 Modern Ocular Therapy. Henry A. Beaudoux.
53 The Climate of Arizona. Wm. G. Burns.

The New Yorker Medicinische Monatsschrift, June.

54 Theorie und Praxis der Anwendung des Zinksuperoxyds. Dr. Hartung.
55 Ueber Kunstliche Sauglingsernahrung. Johann Landau.

Annals of Surgery (Philadelphia), July.

56 *Foreign Bodies in the Lungs. T. A. Korteweg.
57 *Ligation of the Lingual Artery Through the Mouth in Excising Half of the Tongue. Charles W. Cathcart.
58 *The Treatment of Prostatic Hypertrophy Associated with Stone in the Bladder, by Means of Litholopaxy and Bottini's Operation at One Sitting. Willy Meyer.
59 *Transvesical Cauterization as a Substitute for the Bottini Operation in the Treatment of Some Forms of Prostatic Hypertrophy. Albert I. Bouffleur.
60 Traumatic Rupture of the Spleen; Splenectomy; Death on the Sixth Day. Edward A. Balloch.
61 *Gangrenous Intussusception in a Child Four Years Old; Intestinal Resection; Recovery. Charles N. Dowd.
62 The Operative Treatment of Diseases of the Pancreas. Benjamin T. Tilton.
63 Osteoplastic Resection of the Skull by Means of a New Trephine. John C. Da Costa.
64 Motor Aphasia Due to a Small Cortical Hemorrhage in the Region of Broca's Convolution; Trephining; Recovery. Lucius W. Hotchkiss.
65 Operations upon the Kidney at the German Hospital in Philadelphia. John B. Deaver.
66 Hydatid Cysts of the Kidney. Irving S. Haynes.
67 Intestinal Polyposis and Carcinoma. J. Niemack.
68 Bony Cysts of the Middle Turbinated Body. George E. Shambaugh.
69 Subacromial Dislocation from Muscular Spasm. Herman Mynter.
69½ Rôle of the Bacillus Proteus Vulgaris in Surgery. Martin W. Ware.

Medical Fortnightly (St. Louis), July 10.

70 Multiple Neuritis. Daniel R. Brower.
71 A Case of Prenatal Syphilis. A. H. Ohmann-Dumesnil.
72 Tetanilla. John W. Hanna.
73 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

Maryland Medical Journal (Baltimore), July.

74 *Are the Purposes of Our Organization in Accord with Unrestricted Interstate Medical Licensure? J. McPherson Scott.
75 *The Tuberculin Test as a Possible Aid in the Diagnosis of Addison's Disease, with Report of a Case. Robert Reuling.
76 *The Blood in Certain Cutaneous, Nervous and Miscellaneous Diseases, with Remarks upon the Origin and Significance of the Eosinophiles. Thomas R. Brown.

Medical Age (Detroit, Mich.), July 10.

77 Some Remarks on the Treatment of Mastoid Diseases. Robert W. Gillman.
78 Superheated Dry Air in the Treatment of Acute Localized Infective and Septic Diseases Including Pneumonia, Pleuritis, Appendicitis, Osteomyelitis; With Report of Cases. H. J. Burwash.
79 Modern Methods in the Management of Typhoid Fever. Walter F. Boggess.

Northwestern Lancet (Minneapolis), July 15.

80 The Value of Simple Methods in the Examination of the Stomach. Soren P. Rees.
81 Inspection as a Factor in the Physical Examination of Diseases of the Chest. L. A. Nippert.
82 Swedish Movements and Massage. A. Lind.
83 The Pioneer Doctors of the Minnesota Valley. J. W. B. Wellcome, Sr.
84 Plaster of Paris Casts. C. A. Kelsey.

New York State Journal of Medicine (N. Y.), July.

85 *The Therapeutic Uses of the Suprarenal Extract. W. H. Bates.
86 *The Use of the Suprarenal Extract in Diseases of the Heart and Lungs. Samuel Floersheim.
87 *The Use of Adrenalin in Ophthalmology. Wilbur B. Marple.
88 *Uses of the Suprarenal Extract in Gynecology and Obstetrics. Geo. T. Harrison.
89 *The Suprarenal Extract in Genitourinary Surgery. Edward L. Keyes, Jr.
90 *Leucoplakia. W. J. Cruikshank.

Colorado Medical Journal, May.

91 The Mission of the Man of Science. David Utter.
92 The Attitude Assumed by the Laity Toward the Profession in Respect to the Discharge of Its Pecuniary Obligations. B. S. Roseberry.

American Medical Compend (Toledo, Ohio), July.

93 Chorea. Wm. A. Dickey.
94 Notes on Some Important Points of the Utero-ovarian Artery. Byron Robinson.
95 Microscope in Biology. D. E. Haag.
96 Diabetes Mellitus. Fred P. Minton.

Archives of Otology (New Rochelle, N. Y.), June.

97 Suppurations in the Labyrinth. (Concluded.) Victor Hinsberg.
98 A Case of Primary Acute Purulent Inflammation of the Mastoid Cells, Involving Neither the Middle-Ear Nor the Mastoid Antrum. John Dunn.
99 *A Contribution to the Pathology and Diagnosis of Tuberculous Otitis Media. G. K. Grimmer.

Journal of Nervous and Mental Disease (N. Y.), July.

100 *President's Address, American Neurological Association. Joseph Collins.
101 *Contribution to the Study of the Myospasms: Myokymia, Myoclonus Multiplex, Myotonia Acquisita, Intention Spasm. G. L. Walton.
102 Unusual Choreiform Alterations in the Width of the Palpebral Fissure of Both Eyes, Occasioned by Spasm of the Levator Palpebræ Muscles. William C. Posey.
103 Involuntary Movements in a Case of Ataxia. John H. W. Rhein.

Columbia Medical Journal, June.

104 Address on Behalf of the Faculty, Ohio Medical University. John E. Brown.
105 Myocarditis. D. N. Kinsman.
106 Some of the Accidents and Incidents of Labor. Hugh Hendrixson.
107 Diarrhea in Infants—Simple, Inflammatory, Choleraic. Carl L. Spohr.
108 Diarrhea in Infants. H. L. Harris.

New England Medical Monthly (Danbury, Conn.), July.

109 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
110 *Muscular Rheumatism: Its Etiology and Diagnostic Relationship with Appendicitis. Eugene C. Underwood.
111 The Usefulness of Adrenalin in General Practice. C. F. J. Kennedy.
112 *Rami Laterales Cervicis. Byron Robinson.

Texas Medical Journal (Austin), July.

113 Canine Rabies and a Case of Hydrophobia. R. Menger.
114 Some Therapeutic Uses of Water. L. M. Bassett.
115 Typhoid Fever and Its Treatment. S. N. Aston.
116 Care of the Perineum During and After Labor. E. O. Boggs.

Southern Practitioner (Nashville, Tenn.), July.

117 *The Etiology and Pathology of Malignant Tumors. William Krauss.
118 More Experience with Suprarenal Liquid with Chloretone in Diseases of the Ear and Nose. J. T. Herron.
119 The Treatment of Syphilis. James W. Handley.
120 Amenorrhea and Its Treatment. E. C. Willey.

Atlanta Journal-Record of Medicine, July.

121 Treatment of Typhoid Fever. C. T. Nolan.
122 Is the Mosquito a Factor in Disseminating Yellow Fever? E. G. Ferguson.
123 Union by Primary Intention. Stuart McGuire.

Medical Bulletin (Philadelphia), July.

124 Address, Alumni Association of the Medico-Chirurgical College. W. P. Potter.
125 Address, Woman's Medical College. William L. Rodman.
126 The Value of Buffalo Lithia Water in Albuminuria, Fevers, Etc. John V. Shoemaker.

Medical Review of Reviews (N. Y.), June 25.

127 The Present Aspect of the Cancer Problem. Roswell Park.

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1. **The Tubercle Bacilli.**—De Schweinitz and Dorset have investigated the chemical composition of the tubercle bacilli from cattle, swine, horses and birds and the attenuated and virulent types of human origin. They do not feel warranted in giving opinions as regards the relation of the composition of the germ to its character and virulence, but it is interesting to know that the percentage of alcohol extract obtained from the avian bacilli is very much greater than that obtained from any of the other germs; that the percentage of chloroform extract in bovine bacilli and virulent human bacilli is almost exactly the same, while a considerable larger amount is secured from the attenuated human germ, the latter also showing a a very much greater percentage of ether extract. They emphasize the point that there is a greater difference between the two human types, the one attenuated and non-pathogenic for guinea-pigs, the other almost as pathogenic for guinea-pigs as the bovine germ, than there is between the virulent human and the bovine and horse bacilli.

2. **Surra.**—Curry gives the history of an investigation in the Philippines of surra, or horse disease, due to trypanosoma, and calls attention to the importance of destruction of animal excrement in all stables and corrals, both government and private, and careful and systematic inspection of all domestic animals before the rainy season begins; and, as the disease has proved in experience to be invariably fatal, the radical extermination of all infected animals. The fly which acts as a carrier of the disease is the *Stomoxys calcitrans*, which abounds in the rainy season.

4. **Ankylostomiasis.**—Guiteras finds that the ankylostomiasis of Florida and Cuba corresponds to the description of *Uncinaria americana* (Stiles). He thinks the disease less common in Cuba than in Porto Rico.

9. **Mental Disorders of Children.**—According to Dercum, insanity as met with in the adult is rarely seen in infancy. Idiocy and imbecility are common types in the early ages. He divides idiocy and imbecility into: 1. The cases with gross morphologic changes; 2, those with gross pathologic changes; 3, cretinism; 4, amaurotic family idiocy. He gives again his classification of 1901, grouping all mental disorders into five groups: 1, those with delirium, confusion, stupor; 2, maniacal and melancholic types; 3, paranoia; 4, neurasthenic insanities; 5, dementia. The first of these occurs in children, especially the delirium, and confusion and stupor also are quite frequent and similar to the same conditions in the adult. Melancholia and mania he holds, however, are rare in children, as is also paranoia, which are supposed to demand intellectual development beyond that of children. The neurasthenic insanities are more rare than in the adult, and not, as a rule, in sharply differentiated forms. Not infrequently neurasthenic symptoms are prodromal of the dementia precox of Kraepelin, which develops at the age of puberty, and he mentions the symptoms of this condition.

10. **Recent Progress in Prostatic Surgery.**—Lydston's paper insists on the importance of educating the profession and public to an understanding of the fact that the so-called senile prostatic hypertrophy is not necessarily itself a senile disease, but is due to causes and conditions of middle life, or even before, which may be removed or inhibited so as to prevent the later outcome. Hence the importance of an early diagnosis and methodical treatment. The second indication is to relieve by suitable treatment, by sounds, irrigation, antiseptic, astringent or alterative applications the irritative affections of the vesical neck in the male. The third is to decongest the prostate and its environments and stimulate absorption of the hyperplastic or inflammatory exudate, which may be best done by massage. He considers a moderate amount of residual urine of slight importance as long as it is aseptic, and does not favor the installation of catheter life. If these palliative measures do not inhibit the development of the prostatic overgrowth a slow but sure increase of the enlargement is inevitable and the time will arrive when the patient will be obliged to choose between catheter life and a radical operation. An early operation before septic and obstructive changes is comparatively safe, the risk being in delay. He reviews the technique of the various operations and considers that the most rational method is prostatectomy. Formerly he preferred the suprapubic method, but in suitable cases he has adopted the perineal method. In some cases, however, this is not practicable. Lydston is skeptical as to the Bottini operation. He says its safety has been exaggerated and that operating through a perineal incision is much more rational than the Bottini method proper, which is working in the dark. He says what is most needed is a general recognition of the necessity of early prostatectomy before we have any secondary conditions to meet.

13. **Mosquito Extermination.**—Gorgas reports the results of the crusade against the anopheles in Havana, resulting practically in abolition of yellow fever for the first time in 150 years, and a great reduction in the amount of malaria. For the work they did during 1901, they only employed 40 men and spent about $7000. Havana is a compact town, and how far the same methods would apply to country districts is not known and would have to be determined by experience, but he thinks the same general plan would apply everywhere. Mosquitoes do not generally travel very far, and those that annoy the houses come from the immediate neighborhood.

14. **Appendicectomy.**—Manley's article is largely an historic one, giving the translation of Mélier's pamphlet on appendicitis published in 1827, with notes. He remarks in conclusion that from what is known at the present time the appendix serves no useful purpose, and its early and universal removal is called for and should be as general a practice as vaccination.

15. **Measles.**—The ear complications of measles are described by Jarecky, who insists on the importance of nose and throat examination in children with this disease and the advisability of early incision of the drum membrane if there is any need or if one is in doubt.

17. **Hygiene of Pregnancy.**—The special points dwelt upon by Smith are as follows: The diet need not vary much from the ordinary except that meat should be eaten sparingly and candies and sweets generally avoided. If nausea and vomiting occur, the meals should be light and taken four times daily, the last meal shortly before retiring. Coffee and tea should be used in moderation and alcoholic stimulants entirely prohibited. For the prevention of morning nausea, a cup of warm water to which is added a pinch of salt, taken half an hour before rising, is worth more than all the drugs of the pharmacopeia. As regards clothing the principal thing is to avoid undue compression of the abdomen. Exercise is an important factor; walking is probably the best method. The rest and sleep should be ample and more than under ordinary conditions. He advises frequent bathing, a tepid bath at least twice a week; the sitz bath and the douche should, as a rule, be avoided. Particular attention should be given the condition of the breasts and careful asepsis observed. The emotional and psychical condition should be generally looked after and early physical examination should be sought by every pregnant woman. One of the most important things is the condition of the kidneys. The greatest danger is from deficient urinary excretion, and when a pregnant woman of normal size and weight under normal conditions is found to be excreting continually less than 300 gr. of urea a day, her condition demands active treatment and watching during the remainder of the period. Exercise favors elimination and should be encouraged. Digestion should be maintained as perfect as possible, and iron and tonics may be given for their nutritive value.

18. **Typhoid Spine.**—Two cases reported by Moorehouse are submitted with some remarks and a discussion of the diagnosis and frequency of the condition as shown in the literature. The prognosis is good as a rule, and he thinks it desirable to look circumspectly after the management of any case which during the febrile period or in convalescence suggests a development of this condition. The relief from pain is one of the most important things in well-developed cases. Rest in the recumbent position will largely effect this and rheumatic and sedative remedies. Opiates may be found necessary from time to time as in most cases. He is inclined to consider the disease due to an acute inflammatory condition rather than a neurosis.

19. **Empyema in Children.**—The general conclusions deduced by Cotton from an analysis of a series of 180 cases of empyema in children, 146 with fairly satisfactory data, are as follows: 1. Empyema in children usually follows lobar pneumonia—after a varying interval. 2. The infection is usually with the pneumococcus. 3. Spontaneous cure, even when aided by tapping, is rare. 4. Operation should not be delayed, as time lost is strength lost, and the issue is largely one of nutrition. 5. The best form of operation is in general the subperiosteal resection of an inch of the eighth or ninth rib in the posterior axillary line, the evacuation of pus and fibrin masses, and tube drainage. 6. Irrigation at or after operation is not usually advisable. 7. The routine after-treatment in fresh cases should be tube-drainage, the tube being progressively shortened, and removed when the cavity is nearly healed. 8. Where failure to heal seems to depend on failure of the lung to re-expand, treatment by valve or suction apparatus is indicated. This is especially of value in the more chronic cases. 9. The mortality is about one in seven; in small children it is much greater than in those over five years. The causes of mortality are, in the main, beyond our control. 10. The great majority of cases heal even when the healing is delayed for many months. Chronic empyema, in the strict sense, is rare in children. 11. The closure of the cavity depends mainly on nutrition and on adequate drainage. 12. Recurrences may occur from faulty drainage at any time, and they may occur years after apparently sound healing, without obvious cause. 13. Deformity of the chest is usually temporary and yields to treatment. 14. Long-continued discharge from the cavity is not infrequently followed by chest deformity and scoliosis of a severer type, permanent and sometimes extremely severe.

22.—See abstract in THE JOURNAL, xxxviii, p. 1590.

25. **Tendo Achillis Division.**—Hibbs has studied the question whether the increased length of the tendo achillis consequent upon its subcutaneous division for the relief of equinus following infantile paralysis, had any effect in modifying the function of the calf muscles. He gives the report of a number of cases examined, with illustrations, notes the condition of the tendon and muscle in each and concludes that the lengthening of the tendon causes shortening of the calf and the modification of its functions. That it does not follow in all cases does not affect the argument. With what frequency such serious modification of the function of the calf will be seen as a result of the division of the tendo Achillis and the correction of the equinus, can not be determined from the study of so small a number of cases. That it does occur, however, and probably with greater frequency than is generally supposed, is clearly evident.

26. **The Iliopsoas Muscle in Diagnosis.**—The importance of the contraction of the iliopsoas muscle as an aid to diagnosis of conditions in the iliac fossæ has been studied by Meltzer. After some anatomic considerations, he remarks that the muscle can be used as a landmark, and that the elevation brings the viscera above it nearer the surface and nearer the palpating fingers. By this aid the outlines of the viscera are often much more distinctly ascertainable than under the usual palpation. The outlines of the viscera are more easily palpable when they are moved under the fingers while riding on the elevated back of the psoas than when they are flatly stretched on the even surface of the iliac fossa. By repeatedly increasing and decreasing the flexion of the thigh the viscera move to and from our fingers and sometimes render to palpation an assistance similar to that which it derives from the respiratory movements. When active flexion approaches a right angle, the viscera can often be felt moving perceptibly headward on the steep slope of the psoas elevation. This movement is absent when the viscus is adherent. By alternate abduction and adduction of the thigh while in a flexed condition the psoas elevation moves from side to side and assists the palpation in many ways. He thinks it undesirable to have the thigh flexed with a flexed leg, chiefly for the reason that the patient is apt to rest his foot imperceptibly on the bed, which, of course, immediately does away with psoas elevation. Passive elevation also is not advisable for this purpose. The flexion must be done actively. His plan of producing it is as follows: The bed covering is removed from the feet, and the patient is instructed to raise his foot only one inch while the leg is extended. This slight flexion of the thigh is perfectly sufficient to bring out a satisfactory elevation of the psoas, while the abdominal muscles remain relaxed. However, the simple readiness of the patient is often of itself sufficient to bring out an elevation, and the patient therefore has to be cautioned to have his leg at perfect rest before he is asked to raise it. When it is desired to have the patient execute abduction and adduction, a procedure greatly to be recommended, then the leg is to be raised above the level of the other leg. In strong flexion of the thigh, the palpation of the psoas elevation is less easy when the leg is extended, on account of the participation of the abdominal muscles in the strong effort. Strong flexions of the thigh should therefore be executed with the leg not extended, but hanging down in a passively flexed state. The conditions in which he has found this method of use are noted, such as in tumefaction in this region, palpation of the sigmoid flexure, and in distinguishing appendicitis from circumscribed rheumatic myositis of the abdominal muscles. In a fair number of cases of appendicitis he believes that contraction of the iliopsoas is capable of rendering valuable assistance in the diagnosis, but so far the greatest usefulness of the method has been found to be in chronic and subacute cases. He remarks that increase and decrease of flexion as well as abduction and adduction, should be practiced alternately. The effect upon pain is very characteristic and the patient apparently suffers more pain during the flexion than can be elicited by any simple pressure, at least in conditions where the painful spot rests just on top of the psoas elevation. If no

tender spot can be discovered he plants his fingers first to the right and induces abduction and adduction. If the appendix is situated externally to the psoas, between the fingers and the muscle, abduction causes pain and adduction relieves it. If abduction causes no pain, he next plants his fingers on the median side of the psoas, and if adduction causes pain, abduction relieves it. If no pain can be elicited from any of these places he ascertains the end of the cecum and proceeds to palpate upward, point after point, successively along the cecum and the ascending colon, the patient flexing his thigh very strongly at each new point. The tenderness of the psoas must be utilized with criticism, as there are individual whose psoas is sensitive without any diseased appendix, but in such cases the left psoas is also sensitive and to the entire extent of the muscle, and not in the extremity as in appendicitis.

27. **Uterine Cancer.**—The points emphasized by Polak in regard to uterine cancer are: 1. The early diagnosis is possible. 2. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause. 3. During menstrual life, compare every bleeding with what it has been in the same woman. Be suspicious of intermenstrual spotting and serous discharge. 4. After the menopause, any serous or sanguineous discharge is significant. 5. Examine every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhea. Finally, limit radical operations to those cases in which the disease is confined to the uterine tissues.

28. **The Histrionic Element of Mental Disease.**—Kellogg remarks on the histrionic element of mental disease which is the direct outcome of a desire or irresistible impulse and emotional outbreak. At other times it may be due to delusions and hallucinations impelling the sufferer to tragic acts. In some cases it proceeds from a central and organized false belief, leading to sensational monomaniacal rôles. Again, the theatrical phases develop from morbid love, jealousy, or other overwhelming passion, or from actual changes of personality peculiar to insanity. The histrionic element taking the form of caricatures and mimicry is an aberrant manifestation of the law of imitation, which is so fundamental in all formative mental processes. In some cases the histrionic element is spontaneous and involuntary, in others it is attended by slight deliberation and self-control, and in a few directed by the most perverse wilful intent and cunning. He thinks the recognition of this element has an important bearing on obscure phases of mental pathology, clears up the puzzling nature of cases seemingly mixed of sham and reality, and also has a bearing on the prognosis and treatment of these disorders.

29. **Biliary Disorders.**—Gibson notes and reports cases showing the difficulties of diagnosis in some of these affections.

30. **Acquired Characters.**—Irwell reiterates his neo-Darwinian views as to the non-inheritance of acquired characters.

31. **Gonorrhea.**—The points which Valentine wishes particularly to impress on physicians in regard to this disorder are given as follows: 1. That the morning drop is ordinarily a symptom of local or constitutional disturbance. 2. That when it is not due to either of these, it is maintained by overtreatment or artificial sexual irritation. 3. That according to its cause, it must be treated; locally, if due to a local cause, and constitutionally, if faulty metabolism or food irritation be the provoking element; if sexual irritation be the cause, this must be stopped. 4. That if the morning drop be due to overtreatment, it must be discontinued. 5. That the cause of the morning drop is not difficult to ascertain. 6. That its treatment is within the sphere of the general practitioner.

32. **Vivisection.**—Stuver's article is a defense of the practice of vivisection, showing how it has benefited mankind. He admires the zeal of the antivivisectionists, but it is a mystery to him why they should so bitterly oppose those agencies which have done so much good. If they would only just apply their enthusiasm against the pleasures and vanities which cost a million times more suffering to the lower animals, they would have ample field for all their energy and not be interfering with the welfare of humanity.

33. **Hepatic Gout.**—Hatch concludes that there is a certain form of hepatic gout due to uric acid excess in the blood and defective metabolism, and when a certain limit is reached a toxemia is produced and a consequent nervous explosion and symptoms of headache, vertigo, vomiting, wandering pains, cramps, trembling of the limbs, fever, etc., which fully justify us in classifying it among the rheumatic manifestations under the name of hepatic gout. This is amenable like other manifestations of this class, to treatment with colchicin and salicylic acid and complete relief of the symptoms is thus possible.

38. **Typhoid Fever.**—Vaughan first notices the variations of the typhoid bacillus, which he was one of the first to recognize, and remarks that he has in his more extended experience given up the condemnation of water if it contains simply the colon bacillus; it does not cause typhoid fever. The more markedly the germ resembles typhoid bacillus the more likely is typhoid fever liable to appear among those using the water. He has never found any sample of drinking water containing the typical form of the Eberth's bacillus, and does not believe it preserves its typical characteristics for any great length of time in water. He has no hesitation, however, in saying he believes in the specific nature of the germ, though he does not condemn all waters containing the atypical forms. In the elimination of bacilli from the body we may exclude the exhaled air, but it is possible that it may be coughed up in the sputum from diseased lungs. There is no positive evidence that the perspiration contains it. The urine may contain it for a long time, but the principal mode of infection is through the bowels and the dejecta should be particularly cared for. The bacilli may last for a long time under favorable conditions, and it seems that the processes of nitrification going on in the soil favor its growth and development. Its longevity in water is not absolutely ascertained, but there are instances of apparent great longevity. Man is the principal agent for its dissemination. It is possible that it may be carried through the air in dust, but gaseous disseminations are generally germ-free. There is no question but that the great epidemics are caused by drinking water, and flies may be a factor as was shown by investigations in the summer of 1898. The prevalence of the disease is apparently largely influenced by the seasons. It is most prevalent during the late summer and early fall, though the great epidemics do not always occur at this season. Many have appeared during the spring of the year with the breaking up of winter and the thawing of contaminated snow and ice. It occurs most frequently in early manhood as at that time the exposure is greatest. Sex seem to have comparatively little influence aside from the incidence of exposure. Pregnancy and the puerperal state seem to give a certain immunity. Bodily fatigue and mental worry favor its occurrence. The poor are not more liable to it than are the rich. We should be slow in drawing conclusions as to the influence of other diseases, though Curschmann says that acute infectious diseases protect against typhoid infection and there may be some truth in this view. It is not due to errors of diet or gastro-intestinal catarrh. In the Chickamauga investigation there seemed to be some evidence that a temporary gastro-intestinal disturbance produced immunity, but the only explanation which Vaughan gives for this is that probably these gastro-intestinal disturbances were typhoidal themselves.

48. **Pneumonia.**—Sears and Larrabee have analyzed 949 cases of pneumonia in the Boston City Hospital, all over 15 years of age, the majority under 40. They find the mortality percentage greatest at advanced ages, we might say, increasing with age. Hereditary predisposition is hardly suggested. Exposure and alcoholism are most frequently given as the exciting causes, though in many cases no cause could be assigned. Contagion was suggested in only three instances and in one of these it was somewhat dubious. Cases analogous to the "walking" form of typhoid were occasionally found where patients, almost irrespective of the amount of lung involved, kept at work and did not apply for treatment until after the crisis. The majority of these cases were mild, but some of them—

about a quarter of them—died. A close resemblance to typhoid in many cases was notable. Abdominal symptoms were not infrequent and sometimes masked the true condition. The right lung was affected nearly twice as often as the left. Temperature tables showed some interesting facts; the greatest danger lies at the two extremes, over 55 per cent. dying when it underran 102, and 65 when it reached 106. The fatal low temperature cases, however, were largely in advanced age, which may account for some of the facts. They compare these figures with a series of cases collected by Wilson Fox, which also showed increasing mortality in the inverse ratio to temperature. Respiration and pulse rate were noted. The comparative safety limit for the pulse seemed to be about 120; when it got up above 130 more than half the patients died. When the respiration kept under 30, less than 9 per cent. died and less than 15 per cent. under 40. The latter seemed to mark the limit of comparative safety, as the mortality raised steadily and rapidly from that point, yet respirations of 70 or more in the adult were not incompatible with recovery. The temperature figures are stated. The earliest date at which the crisis occurred was the second day, the latest the 19th, but it usually occurred between the sixth and ninth days. It did not always terminate the fever absolutely. Of the total number of cases 35.9 per cent. died, a rather large proportion; slightly more males than females. The harmful effects of alcohol are clearly shown by the figures, only 25 per cent. of the total abstainers died to 45.5 per cent. of the hard drinkers. Moderate drinkers had only a slightly-increased mortality over abstainers. The amount of albumin which was constant in the majority of cases seemed to have a considerable prognostic significance, the mortality being greatest where a large amount was present. The diazo-reaction was found in but four cases of those examined, three of which were fatal. Leucocyte counts were made in 211 cases and showed a higher mortality rate where they numbered less than 10,000. In 86 cases the tendency of pneumonia to lapses was shown. The pneumococcus was the most frequently found bacillus, being the only pathognomonic organism present in more than one-half the cases. Pleurisy, which is hardly a complication, was only marked in a small number of cases. The various complications are noted, such as phlebitis, and meningitis among the rarer ones; peritonitis occurred in three cases, all fatal. Abscess of the hip joint and thigh occurred in one case, pneumococcus being recognized in the pus; rheumatism in 23 cases, in which 7 were fatal. Cardiac murmurs were often present during certain stages of the disease, but their significance was not clear. Chronic endocarditis was certainly present in 80 cases, but it had comparatively little effect on the mortality. Clinical evidence of tuberculosis was observed in 18 cases, all of which recovered. Two of these involved the joints. At the autopsy 10 other cases were found, nearly all of them incipient. The bath treatment seemed to show a slightly higher percentage as regards mortality. All the patients received otherwise about the same treatment and the general result is in line with the conclusion that pneumonia is uninfluenced by treatment, as shown by Coolidge and Townsend.

56. **Foreign Bodies in the Lungs.**—Korteweg reports the case of a fragment of shell in the lungs and discusses the condition generally. He finds from a study of all the data that foreign bodies entering through the larynx, unless they cause death from suffocation, may sometimes be borne easily for a considerable time and where they are smooth and round and not too large they are commonly coughed up or removed by tracheotomy. If angular, they may also be soon removed by tracheotomy or by spontaneous expectoration and the prognosis be good, but the longer they remain the more serious the condition. Left to itself any foreign body kills the patient slowly but surely, producing necrosis, mucus retention, swelling, stenosis, etc., and ulceration and dilatation. The only method in some of these cases may be extensive rib resection, but late operation will not effect a cure. In the case reported a large fragment of shell was removed a number of months after the injury. This he thinks is the second case of the extraction of a foreign body from the lungs through an external wound.

57. **Ligation of the Lingual Artery in Tongue Excision.**—Cathcart describes a method here which is based on the fact that the hyoglossus muscle, although attached to the posterior third of the tongue, can be reached from the mouth when the tongue is drawn far out and the mucous membrane divided between it and the jaw. The operation is performed as follows: The jaws are widely opened; the tongue drawn forward with a strong silk suture in each half; the mucous membrane divided along the middle line of the dorsum behind the growth and between the tongue and the jaw; the tongue split, and the fibers of the genio-hyoglossus divided close to the symphysis with scissors so that the diseased half of the tongue can be drawn well out of the mouth. After this, with a few vertical strokes of a director or other blunt instrument, the anterior edge of the hyoglossus muscle is defined. The director is then insinuated beneath the muscle, the tissues being separated with the point before the instrument is pushed on. The muscle is next carefully cut through on the director for about two-thirds of its extent, and the fibers retracting leave the artery at the bottom of the wound covered only by a little connective tissue. With the point of an aneurism needle or director the vessel can then be easily defined as a bluish cord, and traced downward and backward. An aneurism needle should be passed under it and the vessel tied before it is cut. After the artery has been ligated and divided, a few snips should be made with the scissors radiating out from the ligatured artery into the substance of the tongue. This lessens the chance of cutting the artery again in the later stages of the operation. All that is left to be done is to complete the operation, cutting wide of the disease. The advantages of this method are the ease and certainty in securing the lingual artery, the greater certainty of cutting wide of the disease, along with an intact condition of the tissues of the neck for subsequent removal of the submaxillary and lymphatic glands. In two recent cases of epithelioma this method has worked admirably.

58. **Prostatic Hypertrophy and Calculus.**—Meyer brings up the problems of treatment and reports cases where he has performed litholapaxy and Bottini's operation at one sitting with excellent results.

59. **Transvesical Cauterization.**—Transvesical cauterization or working through the suprapubic opening is recommended by Bouffleur, who points out the disadvantages of the Bottini operation under the usual methods and the use of the suprapubic or transverse route as follows: 1. It admits of accurate anatomic pathologic diagnosis. 2. Cauterization can be made with the galvanocautery or the Paquelin cautery with ease, rapidity and safety and the incision accurately placed, the operation being in sight, and the length and depth of the incision can be regulated to meet the requirements in the particular condition found. The temperature of the blade is under ocular observation. The time of application can be regulated so as to insure destruction of the tissue, regardless of the density. There is no danger from bending the cautery. If hemorrhage does occur, its location can be definitely determined, and measures for its control intelligently and effectively employed, as shown by Eisendrath. It is applicable to all forms of enlargement protruding into the bladder and particularly so to the removal of pedunculated lobes or valve formations. Here a partial prostatectomy followed by cauterization would be an ideal procedure. It is applicable regardless of urethral obstruction. Such obstructions can frequently be readily removed from within, and it admits, moreover, of the removal of a calculus or the direct treatment of an ulcer. It also admits of suprapubic drainage where it is required. Lastly, it is not as liable to be followed by infection, phlebitis, sepsis, etc., as the uncertain urethral operation. Of course, general anesthesia must be employed as there is a tendency to some shock and considerable pain, and it also would be difficult to perform it in contracted bladder where prostatectomy or perineal drainage should be employed if operation is determined upon.

61. **Gangrenous Intussusception.**—After reporting a case of this nature Dowd discusses the methods of its treatment and favors the use of through-and-through suture, going

through all the coats of the intestine and making end-to-end plugs, reinforcing them by subsequent Lembert sutures. He does not find that this method is liable to produce intestinal obstruction by diaphragm formation.

74. **Interstate Reciprocity.**—The interference with existing laws to insure reciprocity is not considered practicable or necessary by Scott. He thinks the plan adopted in Maryland is better, that is, having the examining board appointed by the faculty free from political influence, and it is hoped free from all influence except honesty and a moderate capability, to examine applicants for licensure. If a physician from another state expresses a desire to locate in Maryland he must state under oath his past personal residence, place and time of practice. These statements are investigated, and if it is found that all is well and that he is of good moral and professional standing in the legal sense of the term he is then invited to meet the board or its representative and is submitted to a special examination, the terms and methods of which shall be prescribed by the board of medical examiners. Since 1892 he does not know of a single worthy individual desirous of getting into Maryland who has been subjected to any hardship, and only 1 of the 120 who have been granted special examination that has proven unworthy.

75. **Tuberculin Test in Addison's Disease.**—Reuling reports a case with blood examinations, treatment, etc., and the tuberculin reaction and concludes that the use of this agent is an invaluable aid in the diagnosis of tubercular processes in man, and that a well-defined reaction should occur in about 80 per cent. of the cases of Addison's disease. The substance he uses and refers to is the original Koch tuberculin, as the "new" tuberculin does not seem to be so reliable and has certain dangers.

76. **Eosinophilia.**—The diagnostic value of the eosinophiles is discussed by Brown, who thinks they frequently aid in certain diseases like scarlet fever where a high count during the second and third weeks seems to be a valuable sign; in typhoid fever where the early reappearance points to a favorable prognosis; in anemias where slight eosinophilia is a good sign; in tuberculosis where their presence is regarded by many as favorable prognostically, and in various surgical conditions where a moderate increase is also considered favorable. He concludes from the statistics that while Ehrlich's theory of a chemotactic origin from pre-existing eosinophile bone-marrow cells probably best explains the increase of these cells in most cases, their local origin is also probable in certain other cases.

85. **Therapeutic Uses of Suprarenal Extract.**—Bates repeats his former view that the suprarenal extract is a safe, certain and powerful astringent, hemostatic and heart stimulant; that it is always temporary, and while it does not cure any form of disease itself, it is of great advantage as an adjuvant to other remedies. It is one of the necessary secretions of the body and this may explain why it causes so little general disturbance, considering its powerful effects. He uses in preference an extract made from fresh suprarenals by boiling, filtering and sterilizing. It is not an antiseptic; it is an astringent, hemostatic and heart stimulant, and in these respects the most powerful known.

86. **Suprarenal Extract in Heart and Lung Disease.**—According to Floersheim suprarenal extract is indicated in all forms of organic heart disease where the action is weakened and irregular, and the pulse either slightly irregular, slow or rapid, or of low tension. It is also indicated in the failing action of the heart in chloroform anesthesia, in overwork, in functional disturbances and a generally weakened condition. In a weakened heart with a high tension pulse, the extract strengthens the heart and the pulse becomes softer. He has found good results from the internal administration of the extract in many of these cases, but in patients having apparently normal hearts no effect was observed. He reviews the various lung conditions in which it has been found beneficial, acute and chronic bronchitis, bronchial asthma, congestion, edema, hemoptysis, pneumonia, and has also had temporary benefit in tuberculosis, though not affecting the general progress of the disease.

87. **Adrenalin in Ophthalmology.**—Marple considers adrenalin has only an occasional temporary value in ophthalmology. It has no curative effect and may aggravate the conditions if used too often. There is no inflammatory ocular condition in which he thinks it of any value and its advantage in case of hemorrhage is not great. He thinks he has seen one or two cases where iritis may have been caused by it. He suggests that such a bloodless condition of the eye as it produces may favor infection by weakening resistance. He, therefore, employs it very little in most operations. For slight operations on the lids he uses it because after he is through it enables him to dismiss his patients more promptly.

88. **The Gynecologic Use of Adrenalin.**—Harrison has employed adrenalin in cases of uterine myomata with considerable advantage, employing it internally. It is better, he thinks, in such cases to use it as there is no risk of septic infection and the great advantage of the remedy is that it has no bad effects on the general system.

89. **Adrenalin in Genito-Urinary Surgery.**—From his experience in the past two or three years, Keyes concludes that adrenalin has only a restricted value in genito-urinary disease. He employs it some in meatotomy to avoid hemorrhage, but the effect on the hemorrhage is only temporary. If there is any protracted tendency some other remedy like glutol must be called upon. He has found it to utterly fail in any considerable hemorrhage from an acutely congested or granulating prostate, and in cancerous cases of vesical hemorrhage it has not been satisfactory. Here the use of any form of astringent is most restricted.

90. **Leucoplakia.**—The conclusions reached by Cruikshank are: "1. That leucoplakia buccalis, by reason of the fact that it is liable to terminate in cancer, is a dangerous disease. 2. That the dentist, because of his abundant opportunity primarily to come in contact with the disease, should be able to recognize it in order that he may refer it for proper treatment. 3. That many of the methods employed in the treatment of the disease are worthless, and that some of them, when persisted in, may prove harmful. 4. That in the treatment of the disease the question of the surgical procedure should be considered as early as possible in order that recourse may be had to operative interference before the diseased tissue becomes the seat of carcinomatous degeneration. 5. That while prolonged irritation in the majority of cases may be regarded as the exciting cause of the disease its true relation to syphilis is still an unsettled question."

99. **Tuberculous Otitis Media.**—The principal article of this issue is on this subject and the conclusions are given by Grimmer as follows: "1. Advanced tuberculous changes may be present in the mucous membrane of the tympanum and of the tympanic membrane itself without producing visible evidence through the external auditory meatus. 2. The membrana propria of the drumhead offers marked resistance to tuberculous infiltration and is only destroyed by a process of erosion. This resistance also accounts for the frequency of multiple perforations in tuberculous cases. 3. Latent tuberculous nasopharyngeal adenoids and all other latent foci must be excluded before deciding that any case of middle-ear tuberculosis was a primary infection. 4. A high percentage, probably 65-70 per cent., of cases of suppurative otitis media with neighboring bone lesion, in children under five years, are tuberculous; in older persons, not more than 16 per cent. of similar cases are tuberculous. 5. Intraperitoneal inoculation of guinea-pigs is a good and reliable method of proving the presence or absence of tuberculosis in granulations from the middle-ear. Reliable proofs may also be obtained by examining microscopically such granulations or even an enlarged mastoid gland or nasopharyngeal adenoids when present. 6. In cases of suppurative otitis media, the absence of ear pain, early and extensive destruction of bone, early facial paralysis, multiple perforations, pale flabby granulations with caseous points in the meatus, about a mastoid sinus and in the mastoid antrum, and an enlarged mastoid gland point strongly to the disease being tuberculous. 7. The detection of bare bone with a probe through the meatus, the character

of the discharge, facial paralysis, and extensive destruction of bone appearing as a late symptom, are of doubtful value in arriving at a diagnosis, while the presence of cholesteatomatous masses is positively opposed to tubercle being present."

100. **Progress in Neurology.**—Collins reviews the progress in neurology during the past year, particularly noticing the modifications that appear to be required in the neuron doctrine and which he thinks may have to be made, but there is nothing, he says, with which the theory, properly conceived, can not be made to harmonize. The author notices the observations of Sherrington, Grunbaum, Flechsig, Munk and others on brain localization, the researches on the reflexes and tendon jerks and the topography of the spinal cord, the infection of rheumatism, pathology of paresis, exophthalmic goiter, etc., and also the more recent researches of Head on the relations of visceral disturbances to consciousness and the light they throw on hysteria, neurasthenia, etc. The article is not capable of being closely abstracted.

101. **Myospasms.**—The confusion in the nomenclature of spasm affections is noticed by Walton, who reports cases illustrating the various forms, and offers in conclusion the following suggestions: "1. The term 'myoclonia' as a collective designation for the unrelated disorders, should be discontinued. 2. The term 'myokymia' should be limited to cases showing, without hereditary or congenital history, widespread muscular quivering, without atrophy or other indication of progressive degeneration of the nervous system, without constitutional symptoms, and without signs of present infectious or other acute disease. Cases should not be excluded, however, on account of preceding or introductory symptoms pointing to disease of the lower neurons, if such disease has either disappeared or come to a standstill. 3. The term 'myoclonus fibrillaris multiplex' should not be applied to such cases, since it suggests a relationship between myokymia and the paramyoclonus multiplex of Friedreich, with which it has nothing in common. 4. Myoclonus multiplex (the prefix para seems superfluous) should be used to designate bilateral clonic spasms involving whole muscles or groups of muscles, generally those attached partly or entirely to the trunk. 5. The term 'myotonia acquisita' should be limited to non-hereditary and non-congenital cases in which otherwise healthy individuals present the typical motor disorder or the typical reactions of Thomsen's disease. This term should not include the rigidity accompanying marked intestinal disorder or pronounced psychopathic states, even though the rigidity in the latter conditions may be increased by voluntary movement. 6. The tendency to spasm on attempted voluntary movement, unless accompanied by the typical motor disorder, or the typical reactions of Thomsen's disease, should be classed as intention spasm. 7. The term 'myospasm', clonic or tonic, may be used instead of myoclonia and myotonia, when it is desirable to include under one head the various forms of involuntary muscular contraction without known organic basis."

110. **Appendicitis.**—The diagnosis between appendicitis and muscular rheumatism is suggested by Underwood. He thinks that many cases which point very strongly toward the more popular disease will yield readily to anti-uric acid treatment and thus show the past mistake in diagnosis.

112. **Rami Laterales Cervicis.**—The anatomy of the circulation of the cervix is described in elaborate detail by Robinson, who offers the following conclusions in regard to the ramus cervicis: "1. There is a bi-lateral exsanguinated zone of the cervix. As a result of the vascular bootjack angle on each side of the cervix, a bi-lateral cervical exsanguinated zone exists. These zones are located at the usual points of bi-lateral cervical laceration and hence save women from hemorrhage during parturition. 2. There is a cervical circular vascular zone. The cervix is surrounded by an oval vascular zone which is widest in the median line of the cervix. 3. There is practically a median longitudinal exsanguinated cervical zone. Median longitudinal cervical incisions or lacerations are practically bloodless and non-dangerous. 4. The oblique cervical laceration is dangerous. The dangerous cervical laceration or incision is the oblique one which severs the cervical vascular arms between the dichotomous division of the ramus cervicis and the median longitudinal cervical line. 5. Practically the only dangerous cervical laceration is the one which severs a vascular cervical arm external to the cervical myometrium."

117. **Cancer.**—Krauss discusses the parasitic theory of cancer which he is rather inclined to favor, though he admits the difficulties. He thinks a multiple etiology is not excluded; sarcoma, for example, is simply a connective tissue cancer. We are justified, he thinks, also from what facts we have gained in discrediting the old idea of non-communicability. Generally speaking, he says a multiple layer of cells in a gland formation, with immature cells, irregularly arranged, and invasion of basement membrane, is positively diagnostic of carcinoma. Squamous cell growths must be differentiated from lupus, granuloma and papilloma. Here we generally find pearls, absence of giant cells, and ingrowth instead of outgrowth as the diagnostic features. Even the most thoroughly trained histologist may err in some cases and he hopes that Gaylord's bodies will do for the diagnosis and treatment of cancer what Laveran's discovery has done for malaria. A definite proof of the protozoan nature of cancer will open a new era in parasitology, as many diseases of unknown pathology may finally come under this head.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 12.

1 *Myopathy and a Distal Form. W. R. Gowers.
2 A Note on the Teaching of the History of Medicine. William Osler.
3 On Some Results Obtained by Disinfection and Isolation Against Cholera. Marc Armand Ruffer and C. Zachariades Bey.
4 An Epidemic of Dengue Fever. F. O. Stedman.
5 *The Treatment of Typhoid Fever. N. E. Norway.
6 Five Cases of Perforated Gastric Ulcer Treated by Abdominal Section and Suture, with Remarks on the Treatment and Prognosis of These Cases. George Heaton.
7 Recent Operations on Stomach, Gall-Bladder and Bile Ducts, and for Extrauterine Pregnancy. J. Scott Riddell.

The Lancet (London), July 12.

8 *The Causation and Prevention of Phthisis. Byrom Bramwell.
9 Acetone Series of Products in Connection with Diabetic Coma. (To be continued.) F. W. Pavy.
10 *The Subcutaneous Injection of Cinnamate of Sodium: A New Departure in Therapeutics. Lovell Drage. With a Note on the Preparation of Cinnamate of Sodium Solutions Suitable for Hypodermic Injections. Gilbert T. Morgan.
11 *The Hetol Treatment of Tuberculosis. O. Amrein.
12 *An Explanation of the Cause of Inequality of Pupils in Cases of Thoracic Aneurism. B. Cecil B. Wall and E. W. Ainsley Walker.
13 *Preliminary Note on the Chemical and Therapeutic Properties of Lachnanthes Tinctoria. J. A. Gardner, Harold R. D. Spitta and Arthur Latham.
14 *Leucocytosis in Appendicitis. C. J. Nepean Longridge.
15 The Treatment of Early Mental Cases. F. S. Toogood.

The Practitioner (London). July.

16 *The Causation of Carcinoma and Sarcoma. (To be continued.) Alexander G. R. Foulerton.
17 *Operations for Cancer of the Uterus. W. J. Sinclair.
18 Operative Treatment of Malignant Disease of the Uterus. Walter W. H. Tate.
19 The Present Position of the Surgical Treatment of Hip-Disease in Children. G. A. Wright.

Australasian Medical Gazette (Sidney, N. S. W.), June 20.

20 *Science and the State, with Special Reference to Tuberculosis and the Public Health. E. M. Crookshank.
21 *The Widal Reaction: Its Practical Working at Sidney Hospital. J. L. T. Isbister, C. V. Bowker, and H. Skipton Stacy.
22 The Pathological Conditions of the Cranial Sinuses. T. S. Kirkland.
23 Some Abdominal Surgical Cases. B. Poulton.
24 The Cure of Rodent Cancer by Electrocution. William R. Fox.
25 Bifocal Lenses. T. K. Hamilton.

Archives Gen. de Medecine (Paris), May.

26 *Contribution à l'étude de 2 toxines intestinales: indol et skatol. J. Le Calvé. (Redon).
27 La paralysie périodique familiale. C. Oddo and V. Audibert. (Commenced in No. 1.)
28 Kidney Affections. A. Letienne.—Maladies des reins. Critical Review.

June.

29 Relation de l'épidemie de méningite cérébro-spinale à Alger; 44 cas. A. Cochez.
30 Le sang dans les maladies. F. Bezançon.—Critical Review.

Gaz. Hebd. de Bordeaux, January to June.

31 (No. 1.) *Sur un nouvel anesthétique, le Somnoforme. Chaminade.
32 (Nos. 2 and 3.) *Superheated Air in Treatment of Lupus of Ear and Nose. L. Lichtwitz.—Traitement du lupus de l'oreille et du nez par l'air chaud.
33 (No. 7.) *A propos des injections de préparations mercurielles dans le traitement de diverses affections spécifiques oculaires. H Armaignac.
34 (No. 8.) Du traitement des angiomes cutanés ulcérés chez les tout jeunes enfants par l'extirpation. Bégouin.
35 *La durée maxima de la pause apnéique volontaire. J. Sabrazés.
36 (Nos. 9 and 10.) *La prostatectomie périneale. A. Pousson.
37 (No. 11.) *L'euquinine en thérapeutique infantile. C. Rocaz.
38 (No. 13.) Recherches anatomiques sur le passage du nerf fémoro-cutané au niveau de l'arcade de Fallope. Peyronny.
39 (No. 14.) *Surgical Treatment of Mitral Stenosis. F. Villar. A propos du traitement chir. du rétrécissement mitral.
40 (Nos. 15 and 16.) Six interventions chirurgicales pour néphrite chron. A. Pousson.
41 (No. 21.) *Treatment of Commencing Cataract with Iodids. Badal.—Traitement des cat. commençantes par les collyres et les bains oculaires iodurés.
42 (No. 24.) Piqure anatomique et tuberculose par inoculation. Cure chirurgicale. Hassler (Lyons).

Gaz. des Hop. (Paris), February 8 to June 24.

43 (No. 17.) *Traitement de la rupture du ligament rotulien au moyen du massage et de la mobilisation précoce. A. Brintet (Lyons).
44 (No. 21.) De la position du malade dans les operations sur la tête et le cou. H. Morestin.
45 (Nos. 25 to 28.) Des cicatrices vicieuses. C. Viannay (Lyons).
46 (No. 30.) Du réflexe lumineux étudié chez les mêmes malades aux 3 périodes de la paralysie generale. M. de Montyel.
47 (No. 31.) *Quelques conseils sur l'anesthésie chloroformique. E. Biousse.
48 (No. 32.) Tuberculose testiculaire chez l'enfant. A. Broca.
49 (No. 33.) *Cas de névralgie des 8, 9 and 10 racines dorsales avec tic abdominal. Chipault and Le Fur.
50 (No. 39.) *Les arthropathies hemophiliques. P. Piollet (Lyons).
51 (No. 43.) *De la névrite optique dans les maladies de l'encéphale. De Lapersonne.
52 (No. 45.) Les courants d'émigration et l'expansion de la lèpre. E. Jeanselme.
53 (No. 46.) Du rêve au délire. L. Lagriffe.
54 (Nos. 48 to 51.) Alimentation du neonatorum. C. Jeannin.
55 *Rhythmic Subluxations of the Lower Jaw as Means to Prevent Chloroform Syncope. C. Valery.—De la méthode des subluxations rythmées du maxillaire inferieur pour prevenir la syncope chloroformique.
56 (Nos. 56 to 58.) *Du diagnostic et de l'intervention chir. dans les perforations typhoiques. Hagopoff (Constantinople).
57 (No. 59.) Début insolite de la tuberculose "galopante" à forme de vomissements incoercibles dans la grossesse; 2 cas. Lop.
58 (May 29.) Art Souvenir of the Internes' Centennial.
59 (No. 65.) *Tension arterio-capillaire. P. Bouloumie.
60 (No. 66.) Alcoolisme infantile. J. Roubinovitch.

Revue de Gynecologie (Paris), vi, March to June.

61 (No. 2.) Enucléation par voie abdominale des fibromes utérins. L. Loubet.
62 De l'anatomie path. de la pseudo-endométrite. P. Van Meerdervoort (Hague).
63 Etude sur les kystes dermoides bilatéraux des ovaires. R. Loewy and P. Gueniot.
64 *Les affections biennorhagiques du système nerveux chez la femme. J. Kalabine (Moscow).
65 (No. 3.) *De la grossesse ovarienne. M. de Leon and Hollеman (Amsterdam).
66 Etude des tumeurs teratoides de l'abdomen. Brouha (Liege).
67 Cas de fibromyome de la trompe de Fallope. G. Carrière and L. Legrand (Lille).
68 De la résection segmentaire et simultanée du petit et du gros intestin. F. Jayle and Beausenat.
69 Laparocèle gauche congénitale due à un arrêt de développement partiel des muscles de la paroi abdominale. E. Audard.

Semaine Medicale (Paris), July 2 and 9.

70 (No. 27.) Des médicaments inermes. R. Lépine (Lyons).
71 *Un mode nouveau de vaccination. M. Boigey (Lyons).
72 *Traitement diététique de la fistule biliaire. Jaboulay (Lyons).
73 (No. 28.) Un sérum spécifique doué de propriétés curatives peut-il posséder aussi une action préventive? E. Tavel (Berne).
74 *Traitement de l'hypertrophie de la prostate par la dénudation de cette glande. Jaboulay (Lyons).

Allg. Med. Ct.-Ztg. (Berlin), April 16 to June 25.

75 (Nos. 31 and 32.) Statistische Mitteilungen über 1500 Fälle Tuberculose. H. Jacubasch (St. Andreasberg).
76 Action and Limitations of Nauheim Baths. Wachenfeld (Nauheim).—Die N. Bäder; ihre Wirkung und die Grenzen ihrer Wirksamkeit.
77 (Nos. 33 and 34.) Ueber den Einfluss von Injectionen leukotoxischen Serums auf die Morphologie des Blutes. P. G. Gladin (St. Petersburg).
78 (No. 37.) *Beitrag zur Syphilis-Therapie. Orlipski.
79 (No. 38.) *Iodyloform. G. J. Muller.
80 (Nos. 40 and 41.) Grape Sugar in Non-Diabetic Urine. T. Lohnstein (Berlin).—Ueber das Vorkommen von Traubenzucker im Harn der Nicht-Diabetiker. Gährung in der Torricelli'schen Leere.
81 (No. 43.) Ueber gonorrhoische Neurosen. Orlipski.
82 (No. 45.) *Ueber eine neue Erfindung auf dem Gebiete der Roentgenstrahlen. F. Dessauer (Aschaffenburg).
83 (Nos. 46 and 47.) Cascara Sagrada bei Obstipation Neonatorum. W. P. Joukovsky (St. Petersburg).
84 (No. 48.) Urol. J. W. Frieser.
85 (No. 49.) Citrophen. J. Silberstein.
86 *Ueber Effleurage und Petrissage der Prostata in Beziehung zu ihrer physiol. Function. Orlipski (Halberstadt).
87 (Nos. 50 and 51.) Einiges zur Function der langen Associationsneurone des Grosshirns. E. Storch (Breslau).
88 Nephritis from Standpoint of Late Research. H. Lohnstein (Berlin).—Das Problem der N. vom Standpunkte der neuesten Forschungsresultate.
89 Stoffwechselversuch mit Aleuronat. C. Virchow.

Allg. Wiener Med. Ztg., January to June.

90 (Nos. 5 to 7.) Paralyses Caused by Suppurative Processes. W. Serenin (Moscow).—Ueber durch Eiterung bedingte Lähmungen.
91 (No. 12.) *Domestic Remedy for Pustula Maligna. J. Strobinder (Moscow).—Ein Volksmittel gegen P. m.
92 (Nos. 18 and 19.) Treatment of Morphin Addiction. Von Krafft-Ebing.—Ueber Morphinentwöhnung.
93 (Nos. 20 and 21.) Encapsulated Urinary Calculi. J. Englisch.—Ueber eingekapselte Harnsteine.
94 (No. 23.) *Treatment of gonorrheal After-Affections. Meyen (Muskau).—Ueber gon. Krankheiten und deren Behandlung.

Centralblt. f. Chir. (Leipsic), July 5.

95 *Improved Stump After Amputation, Utilizing the Achilles Tendon. Wilms (Leipsic).—Tragfähiger Amputationsstumpf. Bedeckung mit der Achillessehne.
96 *Technic of Making Imprints of the Sole. Bettmann (Leipsic).—Zur Technik der Fuszsohlenabdrücke.

Deutsche Med. Wochenschrift (Berlin and Leipsic), July 5.

97 *Production of a Specifically Active Substance from Typhoid Bacteria. L. Brieger.—Ueber die Darstellung einer spezifisch wirkenden Substanz aus Typhusbakterien.
98 *Ueber die spezifische Wirkung einer aus Typhusbakterien gewonnenen Substanz im thierischen Organismus. A. Schütze.
99 Disappearance of Liver Dulness in Meteorism. A. Oppenheim (Berlin).—Das Verschwinden der Leberdämpfung bei Meteorismus.
100 *Ueber eine Methode der Erysipelbehandlung. S. Tregubow (Charkow).
101 *Meine Operationsmethode der chron. Highmorempyem. Gerber (Königsberg).
102 Zur Technik der Darstellung von Lymphbahnen. Polano (Giessen).
103 History of Biologic Blood Test. A. Wassermann and A. Schütze.
104 Ueber säurefeste Bakterien. A. Moeller (Belzig). (Commenced in preceding number.)
105 Zur Symptomatologie der Kopfschmerzen (Headaches). G. Hirsch.
106 Perdynamin. O. Kronheim (Berlin).
107 Das Elektro-Bulboskop. F. Deus (Berlin).

Muenchener Med. Wochenschrift, July 1.

108 *Comparative Value of Sanatorium Treatment. Hammer.—Die Heilstättenbehandlung der Tuberkulose.
109 Ueber einige seltenere Fälle von Migräne. Pässler (Leipsic).
110 Ueber die Isoagglutine im Serum gesunder und kranker Menschen. A. v. Decastello (Vienna).
111 *Floating Heart. Leusser (Kissingen).—Ueber Wanderherz.
112 *Zur Pathogenese des akuten Gelenkrheumatismus. Kollmann.
113 Pocket Apparatus for Testing for Albumin and Sugar at the Bedside. Stich (Leipsic).—Eiweiss- und Zuckerreaktion am Krankenbette.

July 8.

114 Widal'sche Serumreaktion bei Weil'scher Krankheit. T. Eckardt (Heidelberg).
115 Ueber den Intentionskrampf der Sprache, die so-gen. Aphthongie. H. Steinert (Leipsic).
116 *Morphin-Scopolamin-Narkose. Korff (Freiburg).
117 Children's Eruptions with Pruritus. F. Siebert.—Ueber Juckausschläge im Kindesalter.
118 Die Frage nach der Identität der Menschen und Thiertuberkulose. Disselhorst (Halle).
119 *Modus Operandi of Phototherapy of Lupus. A. Sack (Heidelberg).—Natur der Gewebsveränderung unter dem Einfluss der Finsen'schen Lichtbehandlung.
120 *Zur klin. Bedeutung der Retroflexio uteri mobilis. E. Wormser (Basle).

Revista Soc. Med. Argentina (Buenos Ayres), x, 54.

121 *Tratamiento quirurgico de las varices y ulceras varicosas por la incision circular del muslo. C. Wenzel.
122 Investigaciones sobre la excitabilidad de los centros nerviosos despues de la muerte. M. Alurralde.

Hygiea (Stockholm), June.

123 En streptokokkepidemi med erythema nodosum och träflegmone (woody phlegmon of the neck). C. Janson.
124 Intravenous Infusion of Saline Solution in Three Cases of Threatening Hemorrhage. I. Lönnberg.—Om förblödning och dess bekämpande med int. inf. af koksaltlösning.

Upsala Laek. Foer. Foerhandlingar, vii, 5 to 7.

125 (No. 5.) Bactericidal Action of Blood Serum and Plasm. A. Pettersson.—Om den bakteriedödande verkan af blodserum och blodplasma.
126 Om kolhydratens ställning inom dibarnsdietetiken. I. Hedenius.
127 Study of Thermic Sensations. K. G. Holm.—Temperaturfoernimmelsernas tidslängd vid konstant retningstemperatur.

128 (Nos. 6 and 7.) **Familial Myoclonia and Allied Affections.** H. Lundborg.—Fortsatta studier och rön rörande den familiära myoklonien och därmed beslaktade sjukdomar.
129 Om Wolff's transformationslag och funktionel ortopedi. P. Haglund.
130 Chronic Tuberculosis of the Spleen. C. Fredga.—Om kron. mjälttuberkulos med anledning af ett eget fall.

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1. **Myopathies.**—Gowers' lecture describes the forms of myopathies, the pseudo-hypertrophic form, the facio-scapular or the Landouzy-Dejerine type and also another one of which he has only seen one case in which the extremities, the hands and feet, seemed to be specially involved, while the face and shoulders but slightly so. He discusses the pathology of the condition, utilizing here his conception of "abiotrophy" or failure of nutrition from defective vitality. The treatment is briefly discussed. Muscular exercise, adapted in degree to the muscular state, is the one agent which distinctly stems the tide of ebbing life and hinders the failure of muscle strength and muscular nutrition. Gentle gymnastics are important, but the exercise should not be overdone.

5. **Treatment of Typhoid Fever.**—Norway argues that the blood is the principal conveyor of germs in typhoid, hence the futility of endeavoring to combat the disease by means of intestinal antiseptics. The patient wastes because the assimilation does not equal the elimination. This fact is in some way due to the Eberth bacillus, it being safe from drug contact, so nothing remains but to strengthen the resisting powers of the patient. He, therefore, gives the following prescription: Armour's essence of pepsin, one-half dram to one dram; dilute nitro-hydrochloric acid, 10 minims, glycerin 20 minims, water up to one-half an ounce. The half-ounce is put in a half-tumbler, or more, of water, to be sipped or taken as desired to relieve thirst. At first he gives such a dose every hour, adding 10 minims of spirits of chloroform if the heart seems to require stimulation beyond the powers of the pepsin. A little morphin may be added if pain or want of sleep makes it desirable. As the temperature falls he gradually lessens the frequency of the dose, but gives it throughout the illness until pain in the iliac fossa disappears. He has often regretted giving it up too soon, but has never seen any unpleasant results of its continued use. It may be said that he often begins the treatment with a grain of calomel in a powder with 10 grains of phenacetin as an excipient, not forgetting that there may be bacilli in the intestinal tract that may become pathogenic under the influence of fever, and therefore intestinal antiseptics in the beginning are desirable. Of course, none of the advantages of careful nursing are neglected. The diet is mainly milk, flavored by tea or coffee, the latter, when pure, he thinks, being the best cardiac stimulant we have and useful in relieving mental depression and headache. It is better not to give nourishment too often. The frequency must depend on the amount that can be taken at the time. He prefers to give five or six ounces every two hours rather than half the amount every hour. The milk may be occasionally varied with a little beef tea; and bread and milk, egg and milk, arrowroot, milk puddings and scrambled eggs may be given later, but a careful inspection of the stools should follow any change in the diet.

8. **Phthisis.**—This second lecture by Bramwell discusses first the question of the communicability of the disease. He holds that it differs from many other disorders in being only very slightly infectious and communicable. He further holds that the introduction of the bacillus into the body is of less importance than the susceptibility of the individual when exposed. To produce primary infection it should be seen that not only is there introduction of the poison into some portion, preferably the respiratory tract, but that that part must be in a diseased condition or one of lessened resistance, either inherited or acquired weakness. In noting the cases in which tuberculous disease is developed in the human subject, the bacilli or spores which happen to lodge on an abraded or unhealthy (or perhaps even a healthy) surface, often do not produce local disease, but are absorbed and conveyed by lymphatic vessels to the adjacent lymphatic glands where they lodge and subsequently develop, or else they are carried by the blood-vessels or lymphatic glands to more distant organs without producing any local condition. He also believes if the nasal, pharyngeal or intestinal mucous membranes are in an absolutely healthy condition there is little risk of the production of the disease from the introduction of the tubercle bacillus or its spores. It is only in a certain proportion of cases that the lymphatics and intestines become infected. He also holds that there is in many cases a hereditary tendency to phthisis, though its direct inheritance is not frequent. Either the natural resisting powers of the tissues are impaired or there is a peculiarity of chest conformity or some peculiarity of the breathing apparatus, probably defective respiration, incapacity or a peculiar vulnerability of the lungs, all of which predispose to the production of unhealthy conditions or catarrhal conditions of the terminal air cells and may be of the bronchi, larynx or mucous membrane where a suitable nidus for the tubercle bacilli is formed. The indications, therefore, are first to prevent the introduction of tubercle bacilli or spores into the body. 2. To prevent the production or development in the respiratory tract of diseases which form a suitable nidus. 3. To assist the resisting powers of the tissues as a whole and the respiratory tissues in particular, so that they may be able to destroy and evacuate the tubercle bacillus which is thus lodged.

10. **Cinnamate of Sodium.**—Drage has faith in the use of cinnamate of sodium in phthisis and reports several cases in which great benefit was derived from hypodermic injections of 15 to 30 minims of a 10 per cent. solution. He thinks a much larger dose may be used safely, but it has not been necessary in his experience. Cinnamate of sodium is readily soluble in glycerin, which is readily mixed with water or aqueous solutions.

11. **Cinnamate of Sodium in Phthisis.**—Amrein finds little benefit from this treatment, though no harmful influence was apparent.

12. **Anisocoria in Thoracic Aneurism.**—Wall and Walker discuss the cause of the inequality of pupils in cases of thoracic aneurism and think the theory of its being due to interference with the sympathetic is unsatisfactory. They find that alteration in vascular diseases may be associated with alteration in size of the pupils. High arterial tension is associated with small pupils, and low arterial tension is associated with wide pupils. The explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris. Inequality of the pupils associated with thoracic aneurism is usually due to inequality of the blood pressure in the ophthalmic arteries resulting from the abnormal vascular conditions.

13. **Lachnanthes Tinctoria.**—From experiments made with the material in tuberculosis of guinea-pigs, Gardner, Spitta and Latham conclude that lachnanthes consists largely of a resinous substance or substances and some body which is precipitated by lead subacetate and is soluble in water. Further, so small a dose as 5 c.c. of an aqueous solution of the material obtained by alcoholic extraction of the plant is sufficiently powerful to kill guinea-pigs, while doses varying from 1 to 3 c.c. of the same solution do not exert any inhibitory action on the progress of tuberculosis, but rather seem to hasten it. Further experiments are being made and will eventually be published.

14. **Leucocytosis in Appendicitis.**—From the results of hematologic examinations in cases of appendicitis, Longridge finds: "There may be no leucocytosis in cases of appendicitis under the following conditions: 1, the mild catarrhal variety; 2, fulminating appendicitis where the resistance of the patient is too feeble to react to the toxemia; and 3, where an abscess is of some standing and is thoroughly walled off.

21. **Malignant Growths.**—The first part of Foulerton's article is largely historical. A discussion of the evidences as to the parasitic nature of carcinoma will be continued in a coming number.

17. **Uterine Cancer.**—Sinclair describes the various operations with their history, maintaining the greater value of vaginal operation in preference to others. The palliative surgical treatment is briefly discussed at the close of his paper,

and he mentions some advantages of the use of chlorid of zinc and thinks it well worth trying in suitable cases. The application succeeded in his hands in relieving hemorrhage, foul-smelling discharges and restoring the appetite.

20. **Tuberculosis.**—Crookshank's address, among other things, discusses particularly the questions of human and bovine tuberculosis, in regard to which he agrees with Koch to a certain extent, holding that if infection of mankind occurs from cattle it must be extremely rare. He thinks, however, that cattle, especially calves, are susceptible to human tuberculosis and the chances of human infection are such that no laxity in the precautions should be allowed. As regards infection from milk, that from cows with diseased conditions of the udders and teats is always unwholesome, no matter what the disease, and no cow suffering from any disease affecting the milk should be admitted into the herd. The danger from the flesh of tuberculous animals is practically *nil* in his opinion with proper inspection and cooking. The so-called cancer in cattle, so far as he has been able to ascertain, is actinomycosis. He concludes that human actinomycosis is a distinct variety derived from distinct sources, and cattle do not infect man with this disease. As regards the heredity of tuberculosis, he remarks that there is evidence of it in the lower animals, as well as in man. Consumption is not infectious but is inoculable. The average mortality from consumption among those who have most to do with it, like physicians, surgeons, etc., is not above the average of other classes. The danger from sputum is a positive one, but not so great as sometimes claimed. Sunlight will render it inert. In a well-ventilated room, Dr. Ransom holds, sputum is harmless. There is not the shadow of a foundation for the theory that there is a danger to the inhabitants of a locality from a sanatorium for tuberculous patients.

21. **The Widal Reaction.**—The experiments with the Widal reaction at the Sydney Hospital is given by Isbister, Bowker and Stacy, who find that positive results are obtained in other diseases than typhoid, but especially in the great majority of typhoid cases. The number of failures is small, but occasionally it does not occur until the second or third week. The most unfortunate thing about it is that it may be obtained years after the attack; in one case the patient reacted twelve years after his attack, and the persistency of reaction does not appear to be in relation to the severity of the disease. To distinguish a reaction that is due to a past attack of typhoid in a patient suffering from an acute disease simulating typhoid, we should make a second test five or seven days later and note whether it is more marked than on the former occasion. If so, the current disease is almost certainly typhoid.

26. **Important Research on Indol and Skatol.**—Le Calvé found that injections of a solution of indol or skatol had a remarkable action on the nerve centers of animals, inducing congestion and minute hemorrhages or edematous infiltration. They also caused alterations of a similar nature in the kidneys, but congestion predominated instead of edema and the secreting element became tumefied and out of order. The liver, lung and spleen showed intense hyperemia. These disturbances were more pronounced the higher the atmospheric temperature. The toxin seemed to affect the animals principally by its powerful action on the vasomotor centers. The purely toxic action was much less noticeable, as was manifest in the slight evidences of general intoxication in contrast with the intense edema in the nerve centers and the alterations in the kidney. When the animals were exposed to higher temperatures the toxic accidents rapidly became intensified and the animals soon died. The same result followed exposure to cold, probably owing to its reducing the vital resistance of the animal. He found that animals injected with indol and then kept at a high temperature soon died with a syndrome identical with that of heat stroke. These experimental researches acquire great practical significance as he adds that he found it possible to counteract the influence of the indol by bringing the temperature of the animal to normal by means of hot baths. The moribund rabbit with subnormal temperature, breathing very slowly and in profound coma, the corneal reflex abolished, was placed in water of the same temperature as its body. The water was then gradually raised to 45 C. and as if by magic all the symptoms vanished and the animals completely revived and have remained in good health since. The paralytic symptoms did not disappear until the water reached 44 C. He has had occasion to try the same measures on three patients and found the benefits almost as marked as in the rabbits. He believes that these hot baths are indicated in heat stroke, pulmonary congestion and edema, congestion of the liver, whether of cardiac or digestive origin, congestion and edema of the kidneys when the anuria is the result of a renal affection, and also in the edema accompanying uremia, in apoplexy and congestion of the brain. Many of these conditions are now treated in exactly the reverse manner by the application of ice or cold. The hot water arrests the radiation of heat and restores a large proportion of what has been lost, while the nerve centers are relieved of their congestion and edema by the rush of blood to the periphery. In the three cases he relates he placed the patients in water of 35 to 37 C., gradually increasing the temperature in the course of fifteen minutes to 45 C. (113 F.), keeping it at this point for ten minutes and reducing it in fifteen more minutes to normal. The patient was then replaced in bed and surrounded by hot water bags. He repeated this bath the two following days. Each was followed by copious diuresis and refreshing sleep.

31. **A New Anesthetic, Somnoform.**—Chaminade has been much pleased with the action of this anesthetic, which is a mixture of 60 parts ethyl chlorid with 35 parts methyl chlorid and 5 parts ethyl bromid. He has used it extensively on 100 patients and has found it absolutely harmless and "renewable." He considers it admirable for all cases of minor surgery. It is more rapid in its action than ethyl chlorid; the anesthesia is calmer, resembling more natural sleep, and no vomiting occurred in any instance.

32. **Superheated Air in Treatment of Lupus of Ears and Nose.**—Lichtwitz states that 80 C. is sufficient and 120 to 130 degrees need never be surpassed. The application is scarcely at all painful and no local nor general anesthesia is required. His three patients thus treated have been apparently cured for more than a year.

33. **Treatment of Syphilitic Eye Affections.**—Armaignac recommends injection of a combination of benzoate of mercury, .6 gm.; benzoate of ammonia, 3 gm.; and water, 60 gm. He has found it very effective in the three cases in which he has applied it.

35. **Diagnostic Significance of the Apneic Pause.**—Sabrazés has remarked that the apneic pause is five to ten seconds shorter in cases of mitral insufficiency than in normal conditions. The normal length of the pause after ordinary expiration, not preceded by forced inspiration, is from twenty to twenty-five seconds. Pleural effusions and pneumonic foci also shorten the pause, while on the other hand, it remains of normal length in pulmonary tuberculosis, even in the second stage.

36. **Perineal Prostatectomy.**—Pousson has had a mortality of 3 in 25 cases of suprapubic transvesical prostatectomy. He has adopted the perineal route lately, and reports five patients thus treated, all with brilliant success, which has convinced him that this operation is an important advance in the treatment of one of the most frequent causes of senile dysuria. The contra-indications for it are few and far between.

37. **Euchinin for Children.**—Rocaz has found this substitute for quinin fully as effective as the latter, while children take it more readily as it has no bitter taste. It is also free from any deleterious action on the digestion.

39. **Surgical Treatment of Mitral Stenosis.**—Villar commenced researches in the line of surgery of the heart as early as 1889. He found in all his experimental work that the danger from hemorrhage was much less than that from asphyxia, especially in dogs. He had no idea of publishing his researches, as they are still incomplete, until Lauder Brunton's recent communications on this subject, but now describes his

attempts to discover some means of relieving mitral stenosis in the course of chronic endocarditis. In his experiments in this line he incised the pericardium of the dog from top to bottom, the entire length of the front aspect of the ventricles, after having passed his left hand under the heart to steady it. He then incised the left ventricle to the left of the front median groove and coronary artery. As the blood began to spurt he inserted his finger in the ventricle and examined the auriculo-ventricular opening and the mitral valve. During this rapid digital exploration his finger stopped the hole made by the incision and arrested the flow of blood. He then inserted a bistoury or scissors and sectioned the valve. This done, he compressed the wound with the thumb of the left hand still supporting the heart from the rear, and with the right hand rapidly sutured the wound with catgut and then the pericardium. The entire intervention was completed in twelve minutes from the first touch of the bistoury to the skin to the completed suture of the pericardium. The hemorrhage can be easily kept under control. Subcutaneous or intravenous injections of serum are of little use as the retraction of the lung prevents its passage into the left heart, and the only result is undue distension of the right cavities. Operations on the heart must be less serious on man than on dogs, as the latter take chloroform poorly and the pleura is so constructed that the lung retracts almost instantly and completely.

41. **Abortive Treatment of Cataract with Iodids.**—Badal reports that with this treatment he succeeded in arresting the cataract in three patients so that it has been absolutely stationary for two or three years in each case. He ordered an eye bath morning and night of one minute's length of a 1 per 40 solution of potassium iodid in two cases; in the other a collyrium of 25 cg. of potassium iodid to 10 gm., alternating with a collyrium of sodium borate.

43. **Treatment of Rupture of the Patellar Ligament by Massage and Mobilization.**—Brintet advocates this method of treatment for cases with little effusion into the joint and the patella movable so that it can easily slide down into place. It is also expedient for persons who refuse surgical intervention. But the joint should be opened up widely and the fragments sutured with wire when the bone is torn out or fractured, or there is much effusion, or when the patella is drawn up by the quadriceps and resists all attempts to bring it back to place. When suture, massage and mobilization follow soon after the accident, the joint entirely regains its former suppleness in young persons.

47. **Advice for Chloroform Anesthesia.**—Biousse asserts that the pulse and respiration are not so valuable as signs of impending danger in anesthesia as the lid reflex. It should be induced as often as six to ten times a minute and the inhalations should be suspended the moment it disappears. When the reflex is weak, flabby, on the point of disappearing, the danger point has been reached, and it should not be allowed to pass beyond this even in the most serious operations.

49. **Radiculalgia with Abdominal Tic Douloureux.**—This case is one of those mentioned in Chipault's communication reviewed in The Journal of July 19, p. 169. It is here described in detail. The patient was first supposed to have tabes, then a renal lesion, before the neuralgia of the eighth, ninth and tenth dorsal roots was differentiated and treated by partial resection of the roots involved. The result was a partial cure. The pain was located in the right subcostal and peri-umbilical region. It was accompanied by a violent cramp in the muscles of the anterior abdominal wall which could be seen contracting under the skin, and compelled the man to bend over until his head almost touched his knees. He was a syphilitic, 48 years old, and four years of this intolerable suffering had led to a drug habit.

50. **Hemophilic Arthropathy.**—Piollet diagnoses a hemophilic joint affection by exclusion of other joint lesions and by other symptoms of the hemophilia. Treatment should be negative. The consequences of surgical intervention on bleeders are disastrous. Only one was saved out of five cases of hemophilic arthropathy operated on. Poncet had a patient die from acute anemia, the result of repeated hemorrhages following mere application of a conical cautery. All these cases had been diagnosed tubercular arthritis. A hemarthrosis requires nothing more than immobilization, moderate compression and ice bags, with sedatives if necessary. Tapping the blood is inadvisable as hemorrhage is possible through the needle hole and the extravasation is more than liable to recur. The tissues in bleeders are so fragile that massage is dangerous. All forcible measures should be avoided and even ankylosis in a good position should be respected. If the position is vicious, slow, gentle compression by some traction apparatus is the only resort. If the subject is past 30 and seems to have outgrown the tendency to hemophilia, cautious mobilization might be attempted to partially restore the movements of the limb, but these maneuvers are liable to be interrupted by a hematoma.

51. **Optic Neuritis in Brain Disease.**—In case of a cerebral neoplasm or a localized syphilitic lesion in the brain the optic fibers are comparatively little affected, and while there may be much congestion of the papilla yet central and peripheral visual acuity may persist long unimpaired. The contrast is frequently striking between the extensive and severe lesions disclosed by the ophthalmoscope and the visual acuity which may remain at 1/3 or even 1/2. Perles and Uhthoff have reported cases of congested papilla which completely retrogressed without leaving a trace in cases of syphilitic gummata. Others have witnessed improvement and even a cure of edema of the papilla after trephining. On the other hand, edematous neuritis induced by meningitis and meningeal tuberculosis has the infectious element superadded to the edema of the optic nerve and it entails the rapid destruction of the optic fibers. If it were possible to examine the patients from the start, the central visual acuity would be found defective and the visual field restricted at a very early stage. Optic neuritis therefore is extremely important for the diagnosis of meningitis even in its incipient stage.

56. **Rhythmic Subluxations of Lower Jaw as Means to Prevent Chloroform Syncope.**—Instead of rhythmic traction of the tongue, Valery accomplishes the same results by rhythmic subluxations of the lower jaw, placing the thumbs on the posterior margin of the ramus near the angle and pushing the bone forward and upward between the administration of the drops of chloroform. The rhythmical subluxations thus induced become more decided as the muscles relax under the influence of the anesthetic. The suspending apparatus of the tongue participates in the movement, and it also aids in the expulsion of mucus. He corroborates the statements of Biousse in regard to the value of the lid reflex as a warning sign in anesthesia and adds that the existence of keratitis may interfere with this reflex and its absence should be determined beforehand before trusting too implicity to it.

56. **Surgical Treatment of Typhoid Perforation.**—Hagopoff reviews the literature on this subject and finds that the recoveries amount to 23 or 26 per cent. of all cases treated by surgical intervention. Many of them were apparently moribund.

59. **Arterio-Capillary Tension.**—Bouloumie attributes great diagnostic importance to determination of the arterio-capillary tension, and has combined Gaertner's and Potain's instruments for the purpose, thus obtaining the advantages of each and comparing their records at the same time.

64. **Gonorrheal Nervous Affections in Women.**—Kalabine reviews the various cases that have been published and experimental researches in the line of injection of gonococcus toxin. It causes marked alterations in the central nervous system in acute intoxication, while the peripheral nerves are also involved in the chronic, with other anatomic changes. Lesser differentiates a gonorrheal sciatica by its sudden onset and the fact that the pain usually attains its maximum from the start. Recovery is also more rapid than from an ordinary sciatica, and the subjects are usually younger, generally between 20 and 30. It is also accompanied by intermittent temperature. There is no recurrence unless from new infection. Eulenburg distinguishes 1, gonorrheal neuralgia, sciatica most frequent; 2, neuritis and myelitis; 3, muscular atrophy and

paralysis. He has personally observed 14 cases belonging to one of these groups and likewise one of a "taboid gonorrheal affection." Kalabine describes one case of gonorrheal sciatica in his practice and one of intercostal neuralgia. A tendency to hypochondria in the course of gonorrhea may likewise be due to the action of the gonococcus toxin on the brain centers.

65. **Ovarian Pregnancy.**—In the case personally observed and described by de Leon and Holleman suspicion of an ovarian pregnancy was based on the anamnesis, clinical symptoms and visual examination during and after the operation, but certainty was not obtained until the microscope confirmed the assumption of primary gestation in a follicle. They add that if all cases of ovarian hematoma were examined under the microscope, this form of pregnancy might be found more frequent than at present supposed. They have collected eleven cases of hematoma of the ovary on record since 1883. There was suspicion of pregnancy in only one of the cases, but it was not confirmed by the microscope.

71. **New Method of Vaccination.**—Boigey was impressed during the recent epidemic of smallpox at Lyons with the fact that so many of the victims had been unsuccessfully vaccinated within a few weeks or months. The disease contracted soon afterward revealed that they must have been susceptible at the time of the vaccination, and that its failure to "take" must have been due to ineffective technic. He now uses a small copper hammer for the purpose of vaccinating. The copper cylinder forming the head of the hammer is slightly convex at each end. It is placed in boiling water for three minutes and then one of its ends is held against the skin for about a second. This produces a slight burn and the vaccine virus is introduced through a tiny slit in the skin of the blister into the serous fluid accumulated below. The pustules develop with a constancy and regularity which indicates that the virus must penetrate at once into the system from the ideal culture medium thus provided. Desiccation is complete in fifteen days after the inoculation. This method is particularly useful for inoculating a number of persons. Three or four hammers are kept ready in the boiling water and are applied as the subjects file past. The blister rapidly develops and the subjects are inoculated in turn in the same order.

72. **Dietetic Treatment of Biliary Fistula.**—Jaboulay and Tixier noticed in a case each of biliary fistula that no bile escaped from the fistula during the day, while at night it flowed in large amounts from it. During the day the discharge was purely mucous. By directing the patients to eat just before retiring they found that it was possible to keep the bile flowing all the time away from the fistula and thus avoid its discharge by this route.

74. **Treatment of Hypertrophied Prostate by Denudation of the Gland.**—Jaboulay's experience has been so favorable with denudation and exposure of the thyroid gland in the treatment of goiter, that he has been applying the same procedure lately in cases of hypertrophied prostate. One patient was a man of 69, whose prostate projected into the rectum from 5 to 7 cm. and owing to pyuria he required sounding and rinsing of the bladder every day. Jaboulay made a semicircular incision in front of the rectum extending to the posterior surface of the gland, and drained with aseptic gauze wicks to right and left, for twelve days. By the end of the month the gland was scarcely palpable and micturition was no longer difficult. In two other cases the results were appreciable, but not so decided as in the case cited. The procedure may prove a valuable preliminary to the usual interventions.

78. **Treatment of Syphilis.**—Orlipski modifies the usual method of treatment by fractioning the doses injected. The final result is practically the same and generally superior, but the danger of intolerance, local irritation, etc., is much diminished, while the moral effect on the patient is very important for his after life. He injects only one-fourth or one-sixth of the Pravaz syringeful of the usual 1 to 10 suspension of hydrargyrum salicylate, but makes four to six injections where others make one.

79. **Iodyloform.**—Müller has been using for two and one-half years the powder he recommends under the name of iodyloform. It is a 10 per cent. combination of iodin and gelatin, and he has entirely discarded iodoform for it. The reaction of virulent buboes is a good criterion of the efficacy of such a powder, and it is especially in such cases, he states, that the iodyloform is most convenient and effective.

82. **Improved Roentgen Tube.**—Dessauer introduces a spark-resisting screen inside the tube, adjustable from without, so that the rays can be controlled and directed at will in certain directions. They emerge from the tube through a narrow slit so that only the straight rays pass on unhindered.

86. **Massage of the Prostate to Promote Its Physiologic Function.**—Orlipski advocates effleurage of the prostate in cases of neurasthenia, and in the anemia of diabetes and syphilis, also as a prophylactic measure to prevent mercurial anemia during specific treatment. He believes that the spermin elaborated in the prostate is a simple physiologic tonic extremely important for the protection and defense of the organism. By stimulating its production by light effleurage we assist nature and may cure or ward off many otherwise inevitable disturbances.

91. **Domestic Remedy for Pustula Maligna.**—Strobinder has lived much with Cossacks and Calmucks and states that they are very successful in the treatment of pustula maligna, which is frequent on the steppes of Russia. One of its common names is "Siberian plague, or sore." He had a patient with a severe pustula maligna, which resisted the classic treatments and those more recently published. In despair, Strobinder resorted to the treatment he had witnessed among the Cossacks, and the benefit was apparent in less than two hours and recovery promptly followed. After an X incision he washed out the wound with brandy and then packed it with a powder made of equal parts of tobacco, sal ammoniac and camphor. A salve made of pitch, lard and linseed oil was applied outside. Quinin hydrochlorate was given internally, two doses of .5 gm. each, at an interval of two hours, and lemonade to drink.

94. **Treatment of Gonorrheal After-Affections.**—Meyen calls attention to the fact that severe gonorrhea, accompanied by suppuration, is liable to heal soon, while the mild forms drag on interminably. This is especially the case in gonorrheal affections of the female internal genitalia. He explains this fact as due to the phagocytosis of the large quantities of white corpuscles which assemble in the suppurative processes. The gonococci are destroyed by the accumulating hordes of phagocytes. This does not occur in the mild forms, and consequently the gonococci linger indefinitely. Any measure that induces active migration of the leucocytes must therefore have a curative tendency. He has found that the Muskau mud baths induce active migration of the leucocytes, and this in combination with their sedative and chemical action has proved remarkably successful in exterminating lingering gonococci and thus curing chronic gonorrheal after-affections of all kinds.

95. **Improved Stump After Amputation, Utilizing the Achilles Tendon.**—Wilms sutured the tendo Achillis across the base of the stump after amputating a few inches above the malleolus. This provided a soft cushion between the stump of the tibia and the soft parts, and the patient was able to walk on it in four weeks and without pain. He simply brought the tendon down and sutured it to the front of the tibia.

96. **Technic for Making Imprints of the Sole.**—Bettmann uses ordinary photographic paper. The foot is wet with the solution of sodium used in photography or some similar fluid, and the subject then stands on the paper, which is afterward exposed to the light and then developed as usual. The photographs thus obtained are perfect in every detail. Ordinary blue print paper can be used by wetting the foot first with a solution of vinegar and then rinsing the paper at once without exposing it directly to the light, but the prints are not so perfect.

97 and 98. **Production of a Specifically Active Substance from Typhoid Bacteria.**—Brieger succeeded in elaborating from typhoid bacilli by the simple technic described a sterile

substance, which induced in animals the production of typhoid agglutinin although the substance itself does not induce agglutination. The vital substances in the bacteria are respected as the method of deriving the specific substance is extremely gentle. Even red corpuscles left in the fluid used are intact after several hours. Although the serum of the animals treated with it acquired marked agglutinating properties, yet they were not protected against typhoid infection nor was the course of subsequent infection modified. This establishes that the agglutinating and immunizing substances are not identical.

100. **Scorching Treatment of Erysipelas.**—Tregubow calls attention anew to the efficacy of treating erysipelas by exposure to the flame of alcohol until a burn of the first degree results. He uses a wad of cotton held in forceps and lighted after it has been dipped in alcohol. He holds it about half an inch from the skin, and as it begins to hurt he moves it along, thus exposing the entire affected surface to the action of the flame. A lighted spirit lamp may be used instead of the cotton. He repeats the application two or three times a day, and usually found two days sufficient for a complete cure. This method of treating erysipelas comes from Bulgaria, where it is a common domestic remedy.

101. **Gerber's Method of Operating on the Antrum of Highmore.**—He opens and evacuates the antrum through the canine fossa, then resects the wall of the antrum between it and the middle meatus of the nose, working through the antrum. This opening is in fact nothing more than an enlargement of the natural ostium and serves for permanent drainage. The mucosa in the fossa canina is then sutured. He has applied this method on fifteen patients and has found it extremely satisfactory and permanently successful for the severest cases, especially those in which the antrum is full of recesses or the mucosa is much degenerated. The method combines the advantages of both the Decault-Küster and the Siebenmann methods with extensive natural drainage.

108. **Comparative Value of Sanatorium.**—Hammer, who is connected with Vierordt's medical polyclinic at Heidelberg, compares the results attained there in the treatment of tuberculosis with those obtained by sanatorium treatment. The local sickness insurance societies have given a course of sanatorium treatment to 127 of their policy-holders since 1898, 12 requiring a second course. The seven sanatoria in question were all in the Black Forest. During this period 55 applicants were treated at the polyclinic. This number included several who had been rejected as unsuitable cases for sanatorium treatment. The proportion of those who regained complete working capacity was 35 per cent. in the sanatoria and 52.7 per cent. at the polyclinic; moderate success was obtained in 38.6 in the former and 16.6 in the latter. About 27 per cent. of the sanatorium patients have died and 32.7 per cent. of the others. The average duration of complete working capacity in the clinically cured cases is 13.3 months in the former and 20.3 months in the latter. He cites other statistics, among them those of the pathologic institute that a tuberculous focus was found in 41.86 per cent. of 3067 cadavers, and in 20.7 per cent. of 826 cases of sudden death. The lesions were healed over in 11.97 per cent. of the former and in 105 cases in the latter. These and other experiences have convinced Hammer that only sifted cases should be sent to the sanatorium, while enormous good can be accomplished by inexpensive treatment and day resorts near home where nourishing food and freedom from harmful factory and other conditions will speedily cure many patients and restore their complete working capacity.

111. **Floating Heart.**—Leusser states that if we can convince a patient with an abnormally movable heart that the disturbances he experiences are due to this cause alone, we can frequently relieve him of great anxiety and ward off neurasthenia. He describes six cases and emphasizes the significance of the strip of resonance between the heart dulness and the sternum as the subject reclines on the left side, as an important point in the differentiation of the condition when percussion is normal as the patient stands or lies on his back. A pericardial effusion can be excluded when the apex beat is equally vigorous in the normal spot standing and at the lowest point of the dulness as the subject lies on the left side. Also when the heart dulness does not spread during standing or bending forward.

112. **Pathogenesis of Acute Articular Rheumatism.**—A few cases have been published of probable contact infection of this disease, and Kollmann describes another. The mother of a young man who was recovering from a second attack exhibited a typical case about a month after the commencement of his illness. Fiessinger mentions that half of all the cases in his experience have occurred in 10 out of the 500 houses in his town. Edlefsen has reported 27 out of 728 cases in which three persons in one house were affected at various times; 5 in which four or five cases had occurred and 1 each in which seven and six cases had occurred. Fetkamp observed six cases follow a single case brought into a ward, but he attributes this local epidemic to the weather. Thoresen has reported the case of a little boy who had the disease and his father who slept with him became affected. The father had had the disease several years before. Mantle has observed 2 cases, one a young man who had acute articular rheumatism after visiting his sweetheart who was sick with the disease; in the other a farmer and his two sons had it in turn.

116. **Morphin—Scopolamin Narcosis.**—Korff has used this method of narcosis in 130 cases and time has only confirmed his previous brilliant success with it, he states. The absolute freedom from any by-effects, the tranquil refreshing sleep after the operation and its other advantages were described in THE JOURNAL of August 17, 1901, p. 480, in reviewing his previous communication on the subject. He has never had a mishap of any kind except that once, in a very debilitated patient, heart weakness was noted after the first injection, but after two injections of camphor the anesthesia was proceeded with as usual. His last fifteen cases are described in detail to illustrate the technic and benefits. No chloroform or ether was used. In two of the cases the patients had previously undergone a chloroform anesthesia and suffered from nausea and vomiting for days afterward. He has finally settled upon the following technic: Four hours before the operation and half an hour after a fluid breakfast, the patient is injected with .01 gm. morphin and .0012 gm. scopolamin. Two hours later and again half an hour before the operation, a second and third injection are made of the same strength. For certain brief operations such as a herniotomy two injections are enough, one two hours and the other half an hour before the intervention. The tongue must not be allowed to slide back into the throat and interfere with respiration. One of the principal advantages is that the patient comes to the table calm and drowsy. Morphin and scopolamin have an antagonistic action. The dose of the latter is less than that prescribed by some alienists (.002 gm.)

119. **Modus Operandi of Phototherapy of Lupus.**—Sack emphasizes the fact that Finsen's light treatment is entirely different in its action from that of a cauterization of tissues. The light accelerates and promotes the natural processes. It stimulates the intact and only partially diseased cells to vital activity, while the morbid cells are stimulated to necrobiotic processes which finally result in their being cast off by the healthy cells beneath. The blood vessels feel the effect of the light first. His statements are based on extensive histologic research and observation.

120. **Clinical Importance of Retroflexio Uteri Mobilis.**—Wormser proclaims that uncomplicated mobile retroflexio does not require treatment in healthy women as it causes no disturbance unless possibly during a pregnancy. When the subjects complain, their disturbances are due to complications which frequently are not easy to locate or they are merely the expression of a more or less pronounced derangement of the nervous system. In both cases the retroflexio itself has nothing to do with the symptoms. Treatment should be addressed to the complications and the nervous system. Not until after failure in this line is correction of the displacement indicated.

121. **Treatment of Varicose Ulcers by an Incision Encircling the Leg.**—Wenzel has been very successful in 22 to

26 cases of severe and rebellious varicose ulcers treated in this way. The incision healed in all by first intention, and no unfavorable results were encountered in any instance. The cure was permanent, radical, and the treatment was free from all danger. [A recent Paris thesis on the same subject extols the advantages of this method, which is more radical than resection of the saphena, as it includes all the vein trunks and section of the nerve fibers banishes the pain and puts an end to the trophic troubles. The insufficiency of the saphena is remedied as the weight of the column of blood no longer rests on the capillaries in the leg. Moreschi, the originator of the method, makes a circular incision above and below the lesion, but later operators have found a single incision above sufficient. No recurrence has ever been known after it to date.—ED.]

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 10 to 16, 1902, inclusive:

David Baker, lieutenant and asst.-surgeon, U. S. A., detailed a member of an examining board at Fort Leavenworth, Kan., to relieve Major Henry P. Birmingham, surgeon, U. S. A.

Frank C. Baker, lieutenant and asst.-surgeon, U. S. A., having reported his arrival at San Francisco, is assigned to duty in the Department of California.

William H. Block, captain and asst.-surgeon, Vols., from Fort McHenry, Md., to San Francisco, en route to the Division of the Philippines for assignment.

Charles B. Byrne, lieutenant-colonel and deputy surgeon-general, member of a retiring board convened at St. Paul, Minn.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., leave of absence extended one month.

Clarence H. Connor, lieutenant and asst.-surgeon, U. S. A., assigned to duty at the General Hospital, Washington, D. C.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., member of a board convened at Washington, D. C., to examine officers of the Army for promotion.

Nelson Gapen, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to Fort Myer, Va.

James D. Glennan, major and surgeon, U. S. A., member of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

Jay W. Grissinger, lieutenant and asst.-surgeon, U. S. A., recently appointed, from York, Pa., to duty at Fort Totten, N. Y.

Reynold M. Kirby-Smith, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Sewanee, Tenn., to duty at Fort McPherson, Ga.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine officers of the Army for promotion.

Samuel E. Lambert, lieutenant and asst.-surgeon, U. S. A., recently appointed and now at Mobile, Ala., is assigned to duty at Fort Morgan, Ala.

Henry Lippincott, colonel and assistant surgeon-general, president of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

George A. McHenry, captain and asst.-surgeon, Vols., leave of absence extended ten days.

William H. Moncrief, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Jefferson Barracks, Mo.

Charles F. Moore, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Fort Ethan Allen, Vt.

Will Leroy Pyles, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to Plattsburg Barracks, N. Y.

William Roberts, lieutenant and asst.-surgeon, U. S. A., now under treatment at the General Hospital, Washington Barracks, D. C., is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Brady, Mich.

John M. Shepherd, contract surgeon, leave of absence for one month granted, to take effect about Aug. 1, 1902.

William Mitchell Smart, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to duty at Fort Monroe, Va.

Cary A. Snoddy, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Fort Thomas, Ky.

Blair D. Taylor, lieutenant colonel and deputy surgeon-general, member of a retiring board convened at St. Paul, Minn.

George M. Wells, captain and asst.-surgeon, U. S. A., member of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

Marshall W. Wood, major and surgeon, U. S. A., to report for examination to the president of the retiring board convened at St. Paul, Minn.

APPOINTMENTS, PROMOTIONS, RETIREMENTS, ETC.,

of medical officers, recorded in the Adjutant General's Office, between June 15 and July 15, 1902:

Appointments.—Colonel William H. Forwood, assistant surgeon-general, to be surgeon-general, with the rank of brigadier-general, June 8, 1902; Nelson Gapen of the District of Columbia, William T. Davis of Kentucky, and William M. Smart of the District of Columbia, to be asst.-surgeons, with the rank of first lieutenant, June 24, 1902.

Promotions.—Lieut.-Col. Alfred C. Girard, deputy surgeon-general, to be assistant surgeon-general, with the rank of colonel, June 28, 1902; Major Henry S. Turrill, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, June 28, 1902; Major Blair D. Taylor, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, June 30, 1902; Captain Euclid B. Frick, asst.-surgeon, to be surgeon, with the rank of major, June 28, 1902; Captain Frank R. Keefer, asst.-surgeon, to be surgeon, with the rank of major, June 30, 1902.

Commissions Vacated by New Appointments.—By Brig.-Gen. William H. Forwood, surgeon-general, his commission as assistant surgeon-general, with the rank of colonel, only, June 28, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 19, 1902:

Surgeon J. F. Urie, detached from the Naval Dispensary, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, July 17, for duty as assistant to the chief of that Bureau.

Surgeon J. D. Gatewood, detached from duty as assistant to the chief of the Bureau of Medicine and Surgery, Navy Department, and ordered to the *Lancaster*.

P. A. Surgeon F. C. Cook, detached from the Naval Hospital, Washington, D. C., July 19, and ordered to the *Supply*.

P. A. Surgeon E. Thompson, detached from the Naval Laboratory, New York, and ordered to the *Montgomery*.

Asst.-Surgeon F. M. Munson, detached from the Naval Hospital, Norfolk, Va., and to duty with torpedo flotilla.

Dr. R. H. Creel, appointed asst.-surgeon, July 2, 1902.

P. A. Surgeon H. C. Curl, detached from the Naval Hospital, Mare Island, Cal., and ordered to Aspen, Colo., for duty with recruiting party.

Asst.-Surgeon W. L. Bell, detached from duty with recruiting party at Aspen, Colo., and ordered to the Mare Island Hospital.

Asst.-Surgeon R. E. Hoyt, detached from the *Wabash* and ordered to Naval Hospital, Newport, R. I.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 19, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, June 29-July 6, 5 cases.
Florida: July 11, Live Oak, 1 case; Palmetto, 1 case.
Illinois: July 5-12, Belleville, 1 case; Chicago, 5 cases; Freeport, 1 case.
Indiana: Indianapolis, June 29-July 5, 11 cases.
Kansas: Wichita, July 5-12, 1 case.
Kentucky: July 5-12, Covington, 6 cases; Lexington, 1 case.
Massachusetts: Boston, July 5-12, 7 cases, 1 death; Cambridge, July 5-12, 13 cases, 2 deaths; Everett, June 28-July 12, 6 cases, 1 death; Lowell, July 5-12, 7 cases; Melrose, July 5-12, 1 case; Newton, July 5-12, 1 case; Somerville, July 5-12, 3 cases.
Michigan: Detroit, July 5-12, 3 cases.
Missouri: St. Louis, July 6-13, 16 cases.
Montana: Butte, June 6-July 13, 6 cases.
Nebraska: Omaha, July 5-12, 8 cases.
New Hampshire: Nashua, July 5-12, 1 case.
New Jersey: Hudson County, Jersey City included, July 6-13, 18 cases, 3 deaths; Newark, July 5-12, 10 cases, 1 death.
New York: New York, July 5-12, 28 cases, 9 deaths.
Ohio: Cincinnati, July 4-11, 5 cases; Cleveland, July 5-12, 38 cases, 4 deaths; Hamilton, July 5-12, 1 case; Toledo, June 29-July 12, 8 cases; Zanesville, June 1-30, 1 case.
Pennsylvania: Allentown, July 5-12, 1 case; Erie, July 5-12, 3 cases; Philadelphia, July 5-12, 18 cases, 3 deaths; Pittsburg, July 5-12, 32 cases, 1 death; Scranton, June 28-July 5, 1 case.
Rhode Island: Providence, July 5-12, 1 case.
Tennessee: Memphis, July 5-12, 1 case.
Utah: Ogden, June 1-30, 9 cases; Salt Lake City, July 5-12, 3 cases.
Virginia: Danville, July 7-14, 3 cases.
Washington: Tacoma, June 30-July 6, 1 case.
Wisconsin: Green Bay, June 6-13, 1 case; Milwaukee, July 5-12, 3 cases.

SMALLPOX—FOREIGN.

Argentina: Montevideo, June 4-11, 49 cases, 3 deaths.
Austria: Prague, June 21-28, 2 cases.
Colombia: Cartagena, June 23-29, 1 death; Panama, June 30-July 7, 6 cases.
Egypt: Cairo, June 10-17, 1 death.
Great Britain: Birmingham, June 28-July 5, 2 cases; Liverpool, June 30-July 5, 3 cases; London, June 21-28, 129 cases, 17 deaths; Sunderland, June 21-28, 1 case.
India: Bombay, June 10-17, 9 deaths; Calcutta, June 7-14, 3 deaths; Karachi, June 1-14, 2 cases, 1 death.
Italy: Naples, June 21-28, 5 cases.
Mexico: City of Mexico, June 29-July 6, 1 case, 1 death.
Russia: Moscow, June 14-21, 15 cases, 2 deaths; Odessa, June 21-28, 3 cases; Warsaw, June 14-21, 3 deaths.

YELLOW FEVER.

Colombia: Panama, June 30-July 7, 5 cases, 2 deaths.
Cuba: Gibara, July 16, 1 death.
Mexico: Vera Cruz, June 28-July 5, 9 cases, 8 deaths.

PLAGUE.

India: Bombay, June 10-17, 55 deaths; Calcutta, June 7-14, 65 deaths.
Russia: Odessa, July 10, present.

CHOLERA—INSULAR.

Philippine Islands: Manila, May 10-24, 236 cases, 186 deaths; Provinces, May 10-24, 804 cases, 549 deaths.

CHOLERA.

China: Kweilan, July 12, 10,000 deaths; Pinglo, July 12, 3000 deaths; Shanghai, June 1-30, 20 cases; Tangku, June 7, epidemic.
India: Bombay, June 10-17, 2 deaths; Calcutta, June 7-14, 32 deaths.

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Cuba, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free: foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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SWEET BREATH

WHEN COFFEE IS LEFT OFF.

A test was made to find if just the leaving off of coffee alone would produce an equal condition of health as when coffee is left off and Postum Food Coffee used in its place.

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"At the end of the first week after making the change from coffee to Postum I witnessed a marvelous change in myself. My once coated tongue cleared off, my appetite increased, breath became sweet and the headaches ceased entirely. One thing I wish to state emphatically, you have in Postum a virgin remedy for constipation, for I certainly had about the worst case ever known among mortals and I am completely cured of it. I feel in every way like a new person.

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